Governing tropical deforestation from beyond the tropics? Limitations and possibilities

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Statement of Originality

Except where otherwise indicated, I confirm that this thesis is my own original work.

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Glossary

ADM: Archer Daniels Miller, one of the major international trading companies for agricultural commodities

APEC: Asia-Pacific Economic Cooperation, under whose ambit a Working Group on Illegal Logging and Associated Trade has been convened since 2011

APHIS: Animal and Plant Health Inspection Service, part of the US Department of Agriculture.

Australian Prohibition: the Illegal Logging Prohibition Act 2012, which set out Australia's illegal logging laws

Basel Convention: Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, adopted in 1989 and enacted in 1992

CIFOR: Centre for International Forestry Research, based in Bogor, Indonesia. CIFOR is a member of the Consultative Group on International Agricultural Research, a global agricultural research partnership

CITES: Convention on International Trade in Endangered Species of Wild Fauna and Flora, which entered into force in 1975

CGF: Consumer Goods Forum, a global network of member companies

CPET: the Central Point of Expertise on Timber (UK), an information hub for the UK's public procurement policy and the EU TR

DAFF: the Department of Agriculture, Fisheries and Forestry (Australia)

DECC: Department of Energy and Climate Change (UK)

DEFRA: Department of Food and Rural Affairs (UK)

EC: European Commission

EFI: European Forest Institute, which runs the EU FLEGT Facility.

EIA: Environmental Investigation Agency, a campaigning organisation that investigates environmental crime

EPA: the Environmental Protection Agency (US)

ESGP: Earth System Governance Project, a social science research network for research on governance and global environmental change

EU: European Union

EU TR: the European Union Timber Regulation, the EU's illegal logging laws

FAO: Food and Agriculture Organisation of the United Nations

FLEGT: the EU's Forest Law Enforcement, Governance and Trade Action Plan

FMU: Forest Management Unit, otherwise known as a forestry concession

FRA: (Global) Forest Resource Assessments, conducted regularly by the FAO

FSC: Forest Stewardship Council, an international sustainability scheme for forestry

GATT: General Agreement on Tariffs and Trade, a multilateral agreement that was replaced in 1995 by the World Trade Organisation. The original GATT text is still in effect, subject to modifications

GHGs: Greenhouse gas emissions

GM: Genetically-modified (used in relation to soya)

GPA: the Agreement on Government Procurement, negotiated under the auspices of the World Trade Organisation

GRSB: Global Roundtable for Sustainable Beef

IIED: International Institute for Environment and Development

ICTSD: International Centre for Trade and Sustainable Development

INPE: Instituto Nacional de Pesquisas Espaciais, Brazil's space agency, whose satellites monitor Brazil's forests

IPCC: Intergovernmental Panel on Climate Change

ISEAL: International Standards Evaluation and Assessment Labelling, an alliance of sustainability schemes

ISPO: Indonesian Sustainable Palm Oil Foundation, an organisation aiming to improve the Indonesian palm oil industry

ITTO: International Tropical Timber Organisation

IUCN: International Union for the Conservation of Nature

Lacey Act: the Lacey Act Amendments 2008 (US), which expanded the century-old Lacey Act to include timber and paper products, comprising the US' illegal logging laws

M&S: Marks and Spencer, a UK supermarket chain

MSC: Marine Stewardship Council

MTCS: Malaysian Timber Certification Scheme

MTI: the WWF's Market Transformation Initiative

National Strategy: the National Strategy for Combating Wildlife Trafficking (US), announced February 2014

NGO: Non-governmental organisation

NZ: New Zealand

P&C: Principles and Criteria, which comprise a sustainability scheme's standard against which certification is assessed

PEFC: Programme for the Endorsement of Forest Certification, an umbrella sustainability scheme

POIG: Palm Oil Innovation Group

RAN: Rainforest Action Network, an NGO

RED: Renewable Energy Directive (EU), the EU's biofuels framework

Rio+20: the 20th annual meeting of the UNFCCC, held in Rio de Janiero in June 2012

RFF: Resources for the Future, a research organisation

RFS2: Renewable Fuels Standard 2 (US), the second iteration of the US' biofuels framework

RSB: Roundtable on Sustainable Biofuels

RSGs: Nestlé's Responsible Sourcing Guidelines

RSPO: Roundtable on Sustainable Palm Oil

RT10: RSPO's 10th general meeting ("Roundtable 10")

RTRS: Roundtable on Responsible Soy

SVLK: Indonesia's Sistem Verifikasi Legalitas Kayu, or Timber Legality Verification System

TFA: Tropical Forests Alliance, a collaboration between multiple governments and the CGF

TFT: The Forest Trust, formerly the Tropical Forest Trust

UCS: Union of Concerned Scientists

UN: United Nations

UNESCO – United Nations Educational, Scientific and Cultural Organisation

UNFCCC: United Nations Forest and Climate Change Convention

US: United States

USDA: United States Department of Agriculture

VPA: Voluntary Partnership Agreement, part of the EU's FLEGT Action Plan

WTO: World Trade Organisation

WWF: Worldwide Fund for Nature (formerly the World Wildlife Fund)

Abstract

International trade connects environmental problems in a given location to consumption patterns elsewhere. Relatively few of these connections, however, have prompted 'downstream' actors – located at the consumption end of supply chains – to respond to the upstream environmental problems in which they are implicated. Contemporary tropical deforestation, a problem substantially driven by production of beef, palm oil, timber and soya, provides a prominent exception. In the last two decades, downstream actors – primarily Western companies and governments, often in conjunction with NGOs – have enacted an array of policy, regulatory and institutional responses that target international supply chains for these four commodities. Yet significant uncertainty lingers over the contribution these responses can make to slowing tropical deforestation.

Drawing on intensive analysis of current responses and more than twenty interviews and correspondences with practitioners and experts, this study gathers together this array of supply chain responses to interrogate their potential contribution to slowing deforestation. It asks what limitations exist on this contribution, both conceptually (deriving from responses' nature) and empirically (deriving from responses' behaviour) and finds that current responses face significant limitations in both categories. Some of these limitations are inescapable, given the structural features of the underlying problem, but interestingly, others emerge instead from the parameters for responding set by downstream actors. In effect, some limitations are chosen by actors through their framing of the problem of deforestation in such a way that protects, inter alia, consumption patterns and continuing globalisation. Additional limitations derive from the behaviour of actors, whether through counter-productive competition within the dynamics of private sector and civil society or deference to some of the sensitivities confronting governments.

In the course of its broad analysis of this newly coherent field, this study also recognises the importance of balancing these limitations with an exploration of the pathways and theories of change through which current responses might be able to overcome them. Multiple of these pathways and theories of change offer promise, though they are nonetheless subject to limitations of their own. Responses may yet be capable of spear-heading deforestation's slowing, even if by themselves their direct effects prove minimal. In short, there is no silver bullet, but greater traction on deforestation is possible by recognising the implications of alternative, deeper framings of that problem, as well as cultivating both an awareness of and willingness to act in ways that go beyond actors' rational interests as narrowly-defined.

Against a backdrop of continuing globalisation, this study clarifies the limitations of downstream actors' current responses to a major environmental problem. As international trade acts increasingly to connect these actors to upstream problems, an understanding of these limitations is a platform on which future policy, regulatory and institutional responses can draw.

Introduction

Some environmental problems, such as habitat fragmentation and nutrient pollution, can be clearly confined within jurisdictional boundaries, while others, such as climate change, have an equally clear disregard for such human divisions. There is, however, a murky and contested middle ground between these two poles. Occupying this niche is a set of environmental problems that, even when incurred in specific locations, are nonetheless connected to actors in distant jurisdictions. International trade is one mechanism connecting actors with such problems, and the one to which this study pertains.

International trade's capacity to connect consumption in one location to environmental problems in another has long been qualitatively recognised. In recent years, advances in computing power and the availability of fine-grained trade data have enabled a new body of research to emerge, which with great precision has begun to quantitatively connect individual supply chains to specific environmental problems. Actors' connections to these 'middle ground' environmental problems are therefore being actively delineated. Yet such knowledge has elicited responses from downstream actors to only comparatively few of these problems.

Tropical deforestation

Contemporary deforestation, which occurs overwhelmingly in the tropics, has been both qualitatively and quantitatively linked to internationally-traded commodities. Specifically, the harvesting and production of palm oil, beef, soya and timber are major drivers of tropical deforestation, and these relationships are at their clearest in the locations – within Indonesia and Brazil, specifically – where deforestation continues to be most rapid. In stark contrast to other environmental problems, however, downstream actors have been both active and innovative in seeking to address their connection to contemporary deforestation. As a result, current responses to deforestation – which include, for example, sustainability schemes and illegal logging laws – provide a compelling case study for exploring both how downstream actors have approached their connection to an upstream environmental problem, and the consequences of this approach. This study focuses exclusively on responses that operate on international supply chains through which the four commodities of palm oil, beef, soya and timber travel.

The innovation of downstream companies, governments and NGOs has made the last two decades an 'age of experimentation' in responding to tropical deforestation. However, while the

term 'experimentation' captures both the extent of activity and innovation, it also connotes a significant uncertainty over the potential contribution that these responses can make to slowing deforestation.

Regrettably, the 'ultimate' question to be asked of these supply-chain responses – 'Do they work?' – presently defies answer. This stems from multiple constraints, including the novelty of many responses – both their new forms and their recentness – and difficulties in attributing any changes observed within forests to any particular response. (There are also observation difficulties that can make changes to forest cover slow to detect, which technologies such as satellites and drones have partly begun to remedy.) But while only the passage of time might allow for more familiarity with responses and the changes occurring in forests, the attribution challenge is compounded by our currently lagging understanding of even how responses might work, both individually and collectively. Thus the scope of the unknown remains significant, with a number of puzzle pieces still to be put in place before the ultimate question about responses can be directly approached.

This study's guiding questions

This study cannot directly approach the question of whether responses work, although it nonetheless intends to yield insights that are constructive towards that end. Instead, given the difficulties in determining the contribution that responses can make to slowing deforestation, this study asks the reverse:

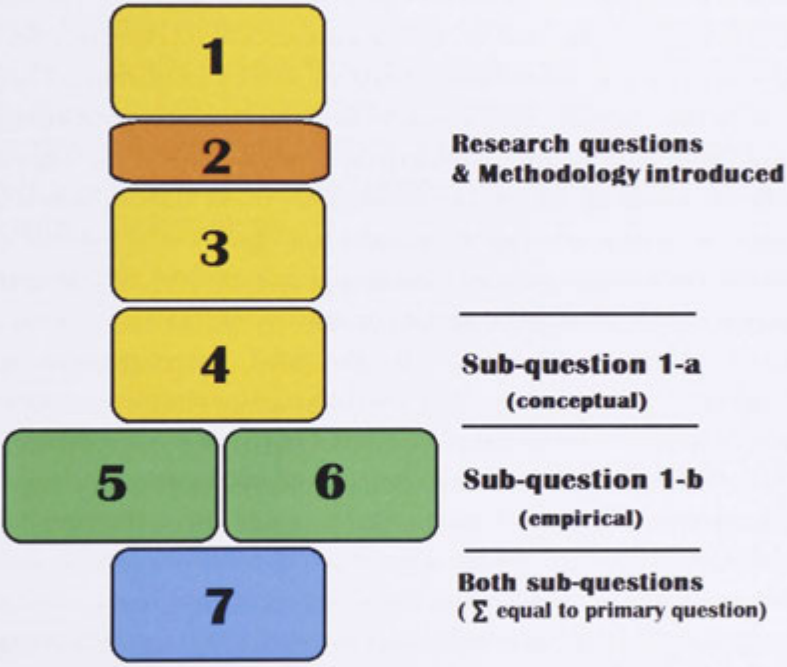
> *'What might limit – or otherwise determine – the contribution that the current set of responses from downstream actors can make to slowing tropical deforestation?'.*

Rather than focusing on responses' potential to contribute, then, this study is aimed first and foremost at the limitations on that contribution. Of course, responses' potential and limitations are intimately linked, yet in avoiding attribution and other challenges the latter provides a more robust platform for scrutiny. In addition, the delineation of these limitations may serve as a tonic for the often-lofty aspirations and rhetoric that have come to surround responses, where the absence of an answer to 'whether they work' can lead to outsized claims of what they are hoped to achieve. Illuminating the bounds on these claims will nonetheless serve a constructive purpose, since in circumscribing what responses cannot do, actors – and whole societies – can better understand what they could or would need to do to fulfil these responses' objective of slowing deforestation, which at the time of writing continues apace.

This study separates the primary research question above into two sub-questions, focused respectively on what, firstly, the conceptual nature of responses (ie. their design), and secondly,

their empirical behaviour, can illuminate about the limitations and determinants of their aggregate contribution. These sub-questions create two fruitful channels of enquiry towards answering the study's primary research question. In bringing to light different aspects of responses' limitations, they are intended as component parts that can sum towards the whole. As the following diagram makes clear, however, the final chapter of this study ties the contributions of preceding chapters together, weaves in both conceptual and empirical limitations as well as drawing out the final element ("or otherwise determine") of the primary research question.

Figure I.1 *Chapter-by-chapter contributions to the study's research questions*



*Chapters shown in diagram: 1. Introduces tropical deforestation and presents responses; 2. Introduces research justification, questions and methodology; 3. Synthesises relevant literatures; 4. Explores conceptual limitations of responses (Sub-question 1-a); 5. and 6. Explore empirical limitations (Sub-question 1-b); 7. Ties together conceptual and empirical limitations and explores pathways to circumvent them (Primary research question). Nb. Introduction and Conclusion not shown.

In answering these questions, this study finds that current responses face significant limitations in the potential contribution they can directly make to slowing tropical deforestation. In accordance with the two channels of enquiry, these limitations are both conceptual (deriving from responses' nature) and empirical (deriving from responses' behaviour). Some of these

limitations are inescapable, given the extra-jurisdictional nature of the underlying problem, for example. Other limitations emerge instead from the parameters for responding set by downstream actors, which generally preclude challenging future increases in consumption or the continued expansion of international trade. However, the study also identifies a number of pathways through which current responses might indirectly achieve greater traction on this problem than the aforementioned limitations would suggest. Responses may yet be capable of spear-heading deforestation's slowing, even if by themselves their direct effects prove minimal.

Approaching the study's questions

To address its guiding question, this study first gathers together a relevant set of responses from downstream actors which meet two key characteristics: a shared objective of slowing tropical deforestation and the shared mechanism of, and focus on, the international supply chains that facilitate trade and consumption of the handful of commodities most strongly implicated. The second of these characteristics is particularly important in excluding some notable though dramatically different downstream response forms, including financial-based instruments such as aid programs and the institution-forming efforts of the Reduction in Emissions from Deforestation and forest Degradation program (REDD+). Although these efforts also intend to positively affect deforestation they nonetheless seek to achieve it through conceptually and practically distinct mechanisms. This second characteristic also allows downstream supply-chain responses to be isolated from domestic efforts within tropical forested countries, which have the ability to approach deforestation as a jurisdictionally-bounded, domestic problem. Domestic environmental problems and their remedies already benefit from a comparatively greater understanding and more extensive literatures. However, the subject matter of this study – downstream responses to an upstream problem – does not have the luxury of approaching deforestation within such familiar parameters; indeed, many of them owe their creation to a deep dissatisfaction with the willingness and ability of tropical forest countries to tackle deforestation through domestic means.

The study forges an intellectual space for conceptualising and analysing these responses to deforestation. It does this by weaving a synthesis of academic literatures, from which emerges the metaphor of a 'governance gap' for the environmental impacts precipitated by international trade. Responses are construed as trying to bridge this gap and effectively govern the capacity of trade to precipitate environmental impacts. The synthesis realises the crucial importance of inter-jurisdictional distance in influencing, if not determining, the parameters of actor behaviour in relation to this environmental problem. It also notes a crucial disagreement on what responses' subject of governance should be, a feature that several literatures – as well as later empirical chapters – reveal to be consequential.

Recall that this study's guiding concern is to identify limitations that diminish the potential contribution of current responses. Broadly speaking there are two approaches that inform this quest: a conceptual examination of the nature of responses (what they are designed to achieve, and what limitations exist), and an empirical exploration of their behaviour (whether, in all their variety, responses are complementary or mutually inhibitive). This study does both, sequentially.

Its conceptual examination (Chapter 4) builds on the synthesis of literatures to show that responses are designed according to one particular framing, among many possible others, of the problem of tropical deforestation. Clearly, to the extent that this framing does not map accurately or completely onto the underlying problem, a limitation emerges on the traction responses can hold on deforestation. Another inescapable limitation derives from the fact that, among the downstream actors that have implemented responses, none has sufficient 'coverage' to directly effect changes to the total production of any of the deforestation commodities. Indeed, even all 'active' actors taken together comprise only fractions – sometimes meagre – of total demand for these commodities.

One of the advantages of this study, having gathered responses together into a distinct set, is its ability to scrutinise them collectively. Unlike most existing literature, then, this study can go beyond analysing individual responses, or individual response-types, to explore how responses operate in concert to pursue their shared objective. Phrased as a dichotomy, two broad possibilities are apparent: either responses complement each other, or they undermine each other. From a conceptual perspective this study finds that determining whether or not responses complement or undermine each other depends in turn on the effect of diversity across responses. This diversity could strengthen their potential as a set, or conversely it could confuse and deflate that potential. In other words, the mere existence of other responses – including those with differing attributions of responsibility, different reference points in legality or sustainability, and additional objectives – has a conceptually indeterminate effect on responses' potential as a collective. Some of these questions are revisited and furnished with participants' perspectives in the empirical chapters that follow this conceptual examination.

Empirical material

Given both the novelty of these responses and the politicised contexts in which they are deployed, any understanding of responses' potential contribution also needs to explore and account for their behaviour. The final three chapters of this study (Chapters 5, 6 and 7) are devoted to that task, and also mark the introduction of the study's empirical material. This material consists most prominently of intensive analysis of the perspectives of practitioners

engaged with, and experts on, the responses canvassed by this study. These perspectives were aired in more than twenty interviews and correspondences that took place over an eighteen-month period between November 2012 and March 2014. These perspectives are supported by further material from two events that I attended: the Roundtable of Sustainable Palm Oil annual meeting in Singapore in October/November 2012, as well as a meeting of the Asia-Pacific Economic Cooperation working group on Illegal Logging and Associated Trade, held in Medan in June, 2013. Given the nature of the subject matter, a considerable and often-illuminating grey literature is also drawn upon.

The empirical chapters that make use of this material begin with one each for responses from the private (business and civil society) and public (government) sector actors. This distinction is made in recognition of the different parameters that structure the behaviour and responses of these two downstream actor groups. Companies have an obvious focus in their own supply chains but face a range of choices in how they relate to existing schemes. They are also advised and heavily scrutinised by NGOs. The consequences of company responses, for responses and the behaviour of other actors, becomes a primary theme of Chapter 5. Governments, in comparison, have a broader range of potential responses they can enact, including their unique capacity to regulate other domestic actors. Yet downstream government responses (and non-responses) reveal a web of perceived constraints and sensitivities shaping public sector positions and actions, which form the primary theme of Chapter 6.

While these two chapters each have a distinct – and almost mutually exclusive – focus, they both introduce empirical material that further develops themes raised by the study's conceptual examination. These chapters demonstrate, for example, that all actors have tended to explicitly frame tropical deforestation as a responsibility primarily of the private sector, with government casting itself in a supporting role. These chapters also bear out both sides of the dichotomy on interactions between responses, showcasing instances where interactions are complementary and mutually supportive and others where they are competitive and mutually inhibitive.

A final empirical chapter returns to the conceptually 'hard' limitation of fractional coverage, applying an empirical lens – through participants' perspectives – to identify pathways for overcoming this limit. Actors place substantial hope that these pathways not only exist but might prove decisive. This final chapter – Chapter 7 – allows a distinction to emerge between the direct effects of responses, which are inescapably constrained by coverage, and their indirect effects, which are not. The indirect influence of responses is worthy of this examination precisely because it has the potential to balance out many of the other limitations identified by

this study. Understanding the potential of this influence is therefore critical for making any final determination on responses' limitations in contributing to a slowing of tropical deforestation.

This study's subject matter – downstream policy, regulatory and institutional responses to tropical deforestation – has a broader relevance than just that one environmental problem. Continuing processes of globalisation are forging further, deeper and more invisible connections between consumption and notionally-distant environmental problems, raising questions of what responsibility downstream actors have, how they can best respond, as well as what might be expected of those responses. Tropical deforestation, a major environmental problem that has generated unrivalled attention and activity from downstream actors, offers a unique case study to interrogate the limitations of a relatively 'mature' set of responses.

Chapter 1 Tropical deforestation and responses from beyond the tropics

This opening chapter introduces the phenomenon of tropical deforestation, detailing its magnitude, pace and regional variation, as well as multiple reasons why its continuation might be considered problematic. The chapter then presents two building blocks that define both the direction and the scope of the ensuing study. The first building block is the understanding that has recently emerged that commercial agriculture is a major, if not primary, driver of contemporary tropical deforestation. Because a portion of this agricultural production is subsequently traded internationally, 'downstream' actors in consumer countries are connected to deforestation through their trade and consumption of relevant agricultural commodities. The second building block is a distinct set of policy, regulatory and institutional responses that have emerged from these downstream actors based on their connection to deforestation. These responses – their form, intent and prospects, and what they reveal – provide the subject matter of this study. While the present chapter merely introduces them, the following chapter will locate them as one especially prominent case of the environmental impacts of trade.

Tropical deforestation as a phenomenon

The term 'tropical deforestation' conjures up images of chainsaws felling giant trees and bulldozers tearing through pristine rainforest, leaving exotic animals such as orang-utans clinging to isolated trees. Yet how stylised is this depiction? What is actually happening in tropical forests, and how comprehensive is the science behind it? The following sections detail the current state of knowledge on the phenomenon of tropical deforestation, seeking to clarify – respectively – what, where and how fast it is happening, why it is considered important, and what is causing it.

1. What, where and how fast is deforestation happening?

Michael Williams is a historian of humanity's long and global experience of forest clearing. In an article updating his landmark book, *Deforesting the Earth*, written at the turn of this century, Williams writes that land clearing 'is not a modern phenomenon, as is commonly supposed, but is as old as human occupation of the earth' (2008:346). Contemporary deforestation, then, is 'merely the latest manifestation (albeit at an accelerating rate) of an ever upward rising curve that began with the emergence of humans on Earth' (ibid.).

In showing deforestation as a constant of human history, Williams is not arguing that it does not matter, nor that it is undeserving of the attention it currently receives. Indeed, in addition to the 'accelerating rate' that Williams notes, there are at least two other notable differences between historic and contemporary deforestation that have only drawn further attention to the process. The first is the geographical concentration of a vast majority of contemporary deforestation within the planet's tropical zones. The second, which is accorded a later section in this chapter, is the historically-novel constellation of factors causing, or driving, contemporary processes of deforestation.

Before delving into the data on the geographical concentration of deforestation, a cautionary note is warranted. It seems self-evident that a process as prominent in the minds of global policymakers, members of the private and civil sectors, and indeed much of the public, should be relatively well understood. To the deep chagrin of many, however, the state of regional and global evidence bases on the process is both limited and flawed. For the last quarter of the twentieth century, for example, only two data sets existed: the Global Forest Resources Assessments (FRAs) conducted every five years by the Food and Agriculture Organisation (FAO), and the global assessment of a single expert, Norman Myers, in 1980 (Williams, 2008). Thankfully, the 2000s saw the implementation of satellite-based monitoring systems of the world's forests. Some data sets were also able to be compiled retrospectively from satellite images, generating data beginning in the 1980s to complement the efforts of the FRAs and Myers' expert assessment. And some forests, such as certain parts of the Brazilian Amazon, are now subject to continuous, real-time data collection, aiding not just monitoring but also law enforcement to the extent that three fifths of Brazil's reduction in deforestation has been attributed to this monitoring (Assunçao et al., 2014). Even with these new sources, however, many data sets for the world's tropical forests remain inconsistent, confusing and patchy.

As the longest-standing and most comprehensive data set on global forests, the FRA could be expected to be a valuable guide to deforestation's trends and patterns. Several limitations of that data set, however, undermine its utility (Hansen et al., 2010). These flaws include:

- the data's self-reported nature (at country level),
- the national-level scope (often obscuring different rates within countries that cross multiple climatic zones),
- the fact that countries' definitions have changed through time, undermining the robustness of any time series data, and
- the fact that 'forest' is weakly-defined (as anything over 10 percent forest cover, inclusive of plantations) (Hansen et al., 2010; DeFries et al., 2002; Grainger, 2008; Williams, 2008).

Modern satellite technology, turned to the monitoring of forests, has enabled an enhanced – though by no means flawless (Asner et al., 2009) – means of corroborating other data sources. These advances have shed light on the changes occurring within not just humid tropical forests (the rainforests of most of our imaginations), but also dry tropical forests such as the *cerrado* in Brazil and Argentina, the extensive boreal forests circling the entire northern hemisphere through the United States, Canada and Russia, and the temperate forests found in the mid-latitudes of both hemispheres. This global picture of forests helps to situate tropical forests, and tropical deforestation, within a broader context.

At the time of writing, the most comprehensive satellite-based study on global forests showed that between the years 2000 and 2005, 3.1 percent of forests were cleared worldwide (Hansen et al., 2010). Of the four biomes, *boreal* forests experienced the highest clearing rates in both absolute area cleared (351 000 sq km) and percentage of the biome cleared (4.0 percent)(ibid.). Humid tropical forests had the second highest area cleared (272 000 sq km) but a lower than average percentage of total biome area cleared (2.4 percent), primarily due to the significant expanses of tropical forest still remaining. Tropical forests are the largest of all biomes, with 11 564 000 sq km remaining in the year 2000 (ibid.).

These data show that deforestation is not confined to the tropics. So why then does tropical deforestation 'trigger such a reaction of concern' (Williams, 2008:358)? The authors of the aforementioned global forest loss study (Hansen et al., 2010) give some preliminary indications: humid tropical forests are the most significant forest biome for carbon and biodiversity, firstly, and tropical deforestation (across humid, but also dry forests) is also being driven by different, more obviously human, causes than deforestation in other biomes. For example, sixty percent of the boreal deforestation referred to above was caused by wildfire, with much of the remainder caused by beetle-infestation and disease (Hansen et al., 2010). The following two sections will elaborate on each of these differences between tropical and other deforestation. But first, it is imperative to provide some further understanding of the magnitude, pace and location of tropical deforestation.

Consistent with the study by Hansen et al. (2010), an earlier study by Asner et al. (2009) of the same time period 2000-2005 had concluded that a roughly similar amount of tropical forests (275 000 sq km) had been cleared. These authors began with a different total area for tropical forests, which is reflected in their conclusion that only 1.4 percent of the biome was deforested (against Hansen et al.'s 2.4 percent). These different baselines (estimates of total tropical forest area) underscore both the limitations of current data on deforestation and the importance of forest definitions. The consistency found between the two estimates of area cleared, however, is

highly encouraging from a data perspective. Overall these two studies suggest that, on average, 55 000 sq km of humid tropical forests were cleared each year between 2000 and 2005. However, these data cannot be safely extrapolated out beyond this time period, as they relate to a period when deforestation in Brazil alone reached its staggering peak of 27 772 sq km in 2004 (INPE, 2014).

For previous decades, only relatively patchy data are available, and results are not necessarily directly comparable to those from the early 2000s (nor able to be aggregated by region). But it is still worth emphasising that, for the 1980s and 1990s, for example, different data sources tell remarkably different stories.

DeFries et al. (2002) combined multiple remote-sensing (i.e. satellite) data sources to find that tropical deforestation rates in the 1990s had *increased* by 10.3 percent over those in the 1980s. This conclusion jarred with the self-reported country data compiled in the FAO's data set, which had reported a 10.9 percent *decrease* in the latter decade (ibid.). The primary reason such differing results were found, according to DeFries et al., is that countries reported inflated deforestation rates in the 1980s, which served to mask continued (indeed, accelerating) rates for the following decade (ibid.).

This pattern repeated itself the following decade, where the FAO (2010) followed up its own prior analysis based on self-reported country data, this time including some data derived from satellite monitoring, to find that its 2005 FRA had over-estimated the forest area cleared in the 1990s, masking an increase in the rate in 2000-2005 (FAO, 2011a). Each of these corrections lends weight to the need to recognise shortcomings in tropical forests data, for which a helpful touchstone is Grainger's analysis, published under the title 'Difficulties in tracking the long-term global trend in tropical forest area' (2008).

While acknowledging the existence of these difficulties, the alignment between Asner et al. (2009) and Hansen et al. (2010) provides a sound starting-point for depicting the magnitude of contemporary deforestation. These two papers estimate the total area of tropical forest cleared between 2000 and 2005 at 275 000 sq km, which if represented as a rectangle would measure 550km x 500km. With reference to multiple Western countries, this area equates to:

- the size of Colorado, or two-thirds the size of California,
- the area of the UK (double the size of England alone),
- four times the size of the Australian state of Tasmania, more than the size of Victoria, or
- almost precisely the size of New Zealand.

These comparisons reveal the sizable tracts of forested land cleared in the historical eye-blink of a single 5 year period. If these rates were to continue for fifteen, or twenty-five, or fifty years, the accumulated area of cleared forest starts to become even more tangible to the imagination. Within at least two tropical locations, long-range data are available to reveal the cumulative effect of annual forest clearing. The world's third largest island, Borneo, is shared by Indonesia (the provinces of Kalimantan), Malaysia (Sarawak and Sabah) and Brunei. In a recent study, Gaveau et al. (2014) calculate that 30.2 percent of the island's forests (168 000 sq km) was cleared from 1973 to 2010, with only a comparable area of forest (210 000 sq km) estimated to remain intact. In a remarkably similar result, the Greater Mekong Subregion, which includes Cambodia, Thailand, Laos, Vietnam and Myanmar, as well as two Chinese provinces, was recently estimated to have lost just under a third of its forested area from 1973 to 2009 (WWF, 2013a). While these total areas are difficult enough to envisage, forest clearing does not occur in neat rectangles, with the important consequence that clearing also leads to the fragmentation of remaining forest areas, with concomitant adverse effects for their ability to serve as wildlife habitat (ibid.).

To clarify the rapidity with which deforestation is currently occurring, it can be helpful to give a temporal flavour to the global estimate agreed by Hansen et al. (2010) and Asner et al. (2009). This figure – 275 000 sq km of cleared tropical forest over a 5 year period – equates to an average of around 150 square kilometres (15 000 hectares) of cleared forests per day, 6.25 square kilometres (625 hectares) per hour, or 0.1 square kilometres (100 hectares) per minute. These are astonishing figures, suggestive of the staggering and sustained human effort put towards clearing tropical forests.

These figures are intended to provide a depiction of the global magnitude of tropical deforestation as a broad trend. But any understanding of this process also needs to account for significant regional distinctions found across the three land masses of Latin America, Africa and Asia, which together comprise the tropical climatic zone.

Tropical forest are not spread evenly across the three land masses. Using data from 1989, Myers (1994) estimated tropical forest area as they then stood. Of the three regions, Latin America had by far the greatest forest area (4 155 500 sq km), almost double that of second-largest Asia (2 106 000 sq km) and bigger than both Asia and Africa (which has 1 522 000 sq km) combined. To emphasise these differences, the single country of Brazil alone contained more tropical forests (2 200 000 sq km) than the second-largest land mass of Asia. The forest areas of the largest tropical forest country in each region (Brazil, Indonesia and the Democratic Republic of Congo, respectively) combine to hold more than half of the near-8 million sq. km of total tropical forest cover found in 1989 (ibid.).

Just as tropical forests are not spread evenly across these three regions, nor is deforestation occurring evenly throughout tropical forests. Instead, Hansen et al. (2008) found that deforestation was highly concentrated, with 'fifty-five percent of total [tropical forest] biome clearing occurring within only 6 percent of the biome area' (p9440). The authors concluded that this demonstrated 'the presence of forest clearing hotspots' (ibid.), or what otherwise might be termed 'frontiers'. (Theoretically, at least, this concentration could make both regulation by tropical country governments and the responses of downstream actors easier to tailor, although as Chapter 6 shows, international trade law can act to constrain this possibility for downstream governments.)

At a country scale, tropical forest clearing during the period (2000-2005) occurred largely in Brazil (47.8 percent of the total), which as previously noted was engaged in a contemporary peak of deforesting activity. At that time, Indonesia was a distant second with 12.8 percent of the global total Hansen et al. (2008). It is a mark of just how much tropical forest lies within Brazil's territory that its extensive clearing within the 2000-2005 period accounted for only 3.6 percent of the year-2000 forest area, while the comparable percentage for Indonesia was similar (around 3.4 percent; ibid.). These two countries – Brazil and Indonesia – have come to be the most significant deforesters since the 1980s, as the FAO's FRAs bear out. Drawing on multiple of these FRAs, Rudel et al. (2009:1400) report that, 'Brazil and Indonesia accounted for 20.3 percent of the global tropical forest loss during the 1980s, 25.7 percent of the loss during the 1990s, and 40.7 percent of the loss between 2000 and 2005'. These figures are perhaps complicated by the inclusion of multiple tropical forest types (including dry forests), yet in terms of the humid tropical forests alone the results are even more stark. Citing Hansen et al. (2008), Rudel et al. (2009) note that Brazil and Indonesia 'accounted for 60.6 percent of the worldwide losses of humid tropical forest between 2000 and 2005' (p1440).

Since this period, at least one major change has occurred. Brazil's space agency, INPE, has developed a comprehensive satellite-based forest monitoring system to monitor that country's forests continuously and in real-time. At the time of writing, INPE had recorded a prolonged and steady decline in the annual deforestation rate within the legal Amazon Basin from its most recent peak of 27 772 sq km (in 2004) to 4 571 sq km (in 2012). In 2013, this figure climbed again for the first time in a decade, to 5 843 sq km, before falling again to an estimated 4 848 sq km in 2014 (INPE, 2014). The remarkable decline in Brazil's deforestation rate underscores the extent of the clearing that was occurring in and around 2004.

Outside of Brazil, a different story is apparent. Within the other Latin American countries that share the Amazon, deforestation has 'sharply increased', with Bolivia, Peru, Colombia and

Venezuela together clearing 20 000 sq km from 2004-12 (Butler, 2013a, presenting data from Terra-i and O-Eco). Meanwhile, in Indonesia, deforestation has climbed consistently over the same period, with the area cleared in 2012 (8 400 sq km) almost double that of the same year in Brazil (4 600 sq km; Margano et al, 2014). Overall, more recent estimates (eg. data from Hansen et al., 2013-14, presented by Mongabay, 2014a) of global deforestation rates reveal an *increasing* trend line – despite Brazil's reductions – which has led over the last decade to an annual area of 80 000 sq km cleared in 2013. The dynamics of deforestation, then, have clearly continued to evolve, with Indonesia now the most active clearer of its forests by area and with the cleared area globally increasing through the last decade.

What can be summarised from this brief survey of tropical deforestation? Firstly, to borrow Williams' words, it needs to be acknowledged that given the state of the data on tropical deforestation, 'we are left with the knowledge that the exact magnitude, pace, and nature of one of the most important processes of the environmental change over large portions of Earth is largely unknown' (2008:356). Here it is worth emphasising Grainger's assertion that 'better techniques will not be enough', and hence his call for the design of 'an appropriate set of institutions... to sustain regular monitoring of forests or other phenomena' (2008:822). In a prelude to a theme that will emerge in Chapter 3 of this study, an imbalance or 'governance gap' exists between a given process (in this case, deforestation) and the institutions (accurate and timely forest monitoring) needed to adequately understand – let alone respond to – that process. Thankfully, more comprehensive, consistent, precise and up-to-date data sets are being developed to bolster humanity's knowledge of the fate of the world's tropical forests. The ability to collect and corroborate data by satellite has afforded greater accuracy to estimates of deforestation, especially in its concentrated hotspots.

Secondly, irrespective of shortcomings in data, enough is known to identify – with only isolated exceptions – highly unfavourable trends for the world's tropical forests. As Asner et al. (2009) conclude, 'never has the impact of human enterprise in tropical forests been as profound as it is today' (p1387). A later section in this chapter will expand upon the further point that the drivers of much of this 'impact' are of an entirely different character than previous periods of deforestation, within and beyond the tropics.

Thirdly, and somewhat counter-intuitively, it is important to recognise that – as Hansen et al. (2010) affirm – 'large regions of forest absent of large-scale forest disturbance still exist in the humid tropics', with 'the Amazon interior being the largest remaining intact forest landscape, primarily due to its inaccessibility', and 'the interior Congo Basin also lacking significant forest loss' (p8651). Thus there are still large swathes of tropical forest remaining, especially in Brazil,

although the continuation of current trends of logging and deforestation are rendering these forests ever more diminished, fragmented and threatened. As Asner et al. (2009) conclude, writing on the vast areas of tropical forest that have been logged (even if not, or not yet, cleared), 'today most tropical forests are within human reach' (p1387).

2. Why are tropical forests important?

It may seem self-evident why the clearing of tropical forests is cause for concern. Yet as this study will show in Chapter 4, downstream actors actually espouse multiple and varied reasons for their concern over forest clearing, which have in turn motivated their responses. Following a broad sweep of these reasons, this section will detail the science behind some of the more prominent ones and show that ultimately, tropical forests are significant for the confluence of values they embody.

Tropical forests contain vast volumes of stored carbon, within both the trees that comprise those forests as well as the peatlands on which some of them are sited. The previously-cited study of the Greater Mekong Subregion (WWF, 2013a), for example, cites research showing total carbon storage of 320 million tonnes of carbon within the region's landscapes. Forests also house many of the terrestrial world's most remarkable creatures, sometimes as the only preserve of habitat where these creatures can dwell. Tropical forests serve vital ecosystem functions in local, regional and global hydrological and atmospheric systems. They also consist of economically valuable timber and yield other valuable non-timber forest products for local populations, and so on. As the Center for International Forestry Research (CIFOR), a donor-funded organisation dedicated to research on tropical forests and based in Bogor, Indonesia, concludes: 'it is almost impossible to exaggerate the importance of forests' (2008:3).

Studies of tropical deforestation often bring a particular value of tropical forests to the fore. For instance, the Intergovernmental Panel on Climate Change included the following in its most recent assessment, stating that '[forestry and other land use change] has accounted for about a third of anthropogenic CO2 emissions from 1750 to 2011 and 12 percent of emissions in 2000 to 2009' (IPCC, 2013:18). Houghton (2012) explains that this decline in the contribution of forestry and land use change – from one third of all greenhouse gases to just 12 percent, or one eighth, since 2000 – reflects a steady rise in emissions from fossil fuel use rather than a decline in deforestation. (As already noted, deforestation has been on an upward trajectory over the last decade.) Even with deforestation at record levels since the turn of this century, however, forests remain a 'net sink' for carbon, absorbing more through growth than is emitted through their clearance (IPCC, 2013; FAO, 2010; Houghton, 2012).

CIFOR draws on multiple studies on forests to confirm their significance for global carbon balances:

> 'Forests represent the world's most significant terrestrial carbon store, containing an estimated 77 percent of all carbon stored in vegetation and 39 percent of all carbon stored in soils; twice as much carbon as is present in the atmosphere' (CIFOR, 2012a).

Crucially, however, not all forests are equally valuable for carbon storage. Of all the forest biomes, rainforests provide the most carbon dense storage (FAO, 2011b), with the consequence that this type of tropical deforestation results in the release of more carbon than the clearing of other forests Hansen et al. (2008). Yet even within the world's rainforests, differences exist, most notably with the very dense stores of carbon found in peatlands (or peat swamps), found primarily in Indonesia. Although peatland forests only cover about 3 percent of the Earth's land area, they store as much as one-third of all soil carbon (CIFOR, 2012a). For example, on the Indonesian island of Sumatra, the draining of peatland was responsible for 70-77 percent of the palm oil industry's gross carbon emissions between 2000 and 2010, despite the fact that a significantly greater forest area was cleared than peatland drained (Lee et al., 2014).

Holding all else equal, the disproportional amount of carbon stored in peatland means that a given area of tropical forest cleared from atop a peat swamp in Indonesia generates much larger carbon emissions than the same area of tropical forest cleared anywhere else on the planet. This is the first intimation of a discrepancy across the world's tropical forests, which will be shown to also apply for other values of tropical forests. The unequal distribution of carbon within the world's tropical forests, in conjunction with 'hot spots' of concentrated forest clearing, lead the Union of Concerned Scientists, an advocacy organisation of scientists, to conclude that, 'only a dozen or so countries [including Brazil and Indonesia] are responsible for over 90 percent of the global warming pollution due to deforestation' (Boucher et al., 2011:7).

An often-repeated 'fact' is that deforestation generates more carbon emissions than 'the entire global transportation sector' (eg. UN-REDD, 2009). Given Boucher et al.'s (2011) point that the vast majority of deforestation originates in only a dozen or so countries, the challenge of reducing global emissions has led many actors, including the UN and many of the downstream governments and companies included in this study, to view deforestation as a prime target for achieving those emissions reductions. As Chapter 6 will argue, however, there is a further convenience for downstream actors to the concentration of deforestation: it necessitates that changes in behaviour occur within *other* countries. And as Chapter 3 will show, current responses by downstream actors to deforestation ensure that 'the problem' they are responding to is isolated to

the direct connection between certain commodity and deforestation, and not the 'global transportation sector' that ferries those commodities to countries beyond the tropics.

The world's tropical forests are also a tremendous store of the planet's biodiversity, harbouring the most species diversity of any terrestrial biome (and eclipsed only by coral reefs; NOAA, 2011). One possible explanation for these levels of biodiversity is that tropical rainforests 'are thought to be the oldest [terrestrial] biome on earth' (RCF, 2015). Removing this habitat by clearing rainforests 'results in a concomitant loss in biodiversity richness' (Hansen et al., 2008:9439). Deforestation has consequently been identified as 'one of the most important drivers of mounting species extinction rates' (Bennett and Balvanera, 2007:191). Many of the species found in rainforests are familiar even to the non-specialist: southeast Asia's multiple species of orang-utan, as well as gibbons and proboscis monkeys, the Sumatran rhino and Sumatran tiger, forest elephants, tree kangaroos and birds of paradise; central Africa's forest elephants, gorillas and chimpanzees; the Amazon's jaguars, pumas, tapirs, capuchin monkeys, hornbills, and so on. Recent research suggests that some of the most 'bio-diverse' patches of rainforest on earth may be in Ecuador, Bolivia and Peru in the western Amazon; indeed, there can be more tree species (655) within a single hectare of this rainforest than in the continental US and Canada combined (Bass et al., 2010; Hance, 2012a; Le Saout et al., 2013).

Although each of the three rainforest regions contains a bewildering array of species, the species themselves vary across (and within) each region. The clearance of a given area of rainforest in one location therefore produces different consequences for biodiversity than clearing the same area in another, by virtue of the species it threatens. These differences have often been reflected in NGO campaigns (eg. Greenpeace, 2010) and policymakers' speeches (Siewert, 2011), which highlight threats to 'iconic' or 'charismatic megafauna' species, such as the orang-utan populations of northern Sumatra and Borneo, both in Indonesia. As such, while the overall magnitude of biodiversity within tropical forests are significant in their own right, responses by downstream actors to deforestation have been just as clearly motivated by threats to individual, identifiable species.

Across regions and locations, rainforests vary in the carbon and biodiversity values they embody. The point of emphasising their differential nature is not to argue that only some areas of rainforests are important, but rather that some areas may be *more important* than others to protect against clearing. Of course, the consequences of this approach hinge to a great extent on the values accorded greatest priority. Already researchers are seeking this 'damage limitation' approach to future deforestation, with Boucher et al. (2011) arguing (on the basis of Lambin and Meyfroidt's (2011) research on displacement) that if 'there is no way to prevent [displacement]

from happening entirely, the point is to minimise it, restrict it, and guide it to places where it does the least environmental and social damage' (p98). In 'guiding it to other places', these authors could mean protecting tropical forests while 'displacing' land use change to other biomes. Yet given their varying significance as carbon and biodiversity stores, perhaps land use change could also be guided *within* tropical forests. In this case, attention solely to forest area is likely to be an insufficient guide, as it sacrifices the nuance of forests' varying carbon or biodiversity stores. Yet similarly, organising concern around carbon values, as at least one prominent innovation – REDD+, or Reduced Emissions from Deforestation and forest Degradation – does, neglects forests' varying biodiversity value. Accounting for and clarifying which of tropical forests' values is of interest therefore becomes crucial.

Rainforests also have an abundance of other values that are no less important for both ecosystems and humans livelihoods. Forests provide soil stabilisation, a steady supply of clean water and flood control, they act as rainmakers on a regional basis, provide homes for the insects and birds that in turn pollinate agricultural crops, and provide supplementary food and nutrition for many of the world's poorest billion people (CIFOR, 2012b; Boucher et al., 2011). They also provide vital fuel sources in the form of fuel wood and charcoal for much of Africa, and to a lesser extent, elsewhere.

Clearly then, there are many reasons to avoid and limit deforestation in tropical forests; human societies have many direct interests in doing so. But the values of rainforests delineated above are what might be called the 'rational, scientific' reasons for protecting forests. As Williams (2008) suggests, perhaps underlying these reasons is 'a deeper sentiment or feeling of which most of us are only dimly aware – that trees and forests have cultural meanings' (p359), and that the strong reactions to deforestation are based just as much on the perception of the 'loss of a repository of myth and memory' (p356). While these less tangible values are rarely noted within downstream actors' motivations for responding, perhaps they play a subliminal role nonetheless.

Certainly, the conclusion to be drawn about tropical forests here is not that any one value they represent is more important than another. Rather it is that tropical forests embody a *confluence* of values, unmatched by any other biome on the planet. Yet equally clearly, as the previous section showed, tropical forests' confluence of values have not prevented their dramatic clearance. The following section explores the contemporary causes of this phenomenon's continuation.

Tropical forests continue to be destroyed even though the confluence of values they embody, both scientific and cultural, would seem to provide ample reason for human societies to protect them. This section explores the factors that cause contemporary tropical deforestation. What are the causes, or drivers, of deforestation, and how have they changed through time?

Throughout most of human history, forests have been cleared for one relatively straightforward reason. As Rolett and Diamond note, 'although the forest [itself was] a source of many kinds of foods and useful products, fundamentally the forest and agriculture were in conflict' (2004, cited in Boucher et al., 2011:5). Farmers and shifting cultivators (who grow crops on one patch of land until the soil is exhausted, then move on and clear another) have long 'been seen as the chief agents of deforestation in the tropics' (Boucher et al., 2011:90). When aggregated, the actions of these agents continually expanded the agricultural frontier into areas of forests (Butler and Laurance, 2008), with the food they produced being directed primarily towards either domestic markets or their own self-sufficiency. Governments have often been actively supportive of expansion into forests, framing it positively as a 'colonisation' activity (DeFries et al., 2010) and building roads and otherwise assisting the development of land and waterways (Richards et al., 2012; Rudel et al., 2009). Thus in most places, including the tropics, deforestation has been explicitly aided and abetted by governments encouraging farmers to pursue one or a combination of agricultural production, economic development and national security. This process occurred almost universally, including in the countries within the West that may no longer be actively deforesting. This historical behaviour is frequently dragged into the light to accuse Western countries of hypocrisy in seeking to prevent contemporary tropical deforestation, as Chapter 6 will show.

Continuing through the 1970s and most of the 1980s (the first years for which satellite monitoring of forests existed), the actions of small farmers and shifting cultivators still provided an accurate explanation for the clearance of forests, which by now were primarily being cleared in the tropics. But within the 1980s a broad shift in the drivers of forest clearing emerged, and by the year 1990 at the latest, the potency of the 'smallholder farmers' explanation had reached an inflexion point. Another agent of deforestation had became apparent: the large-scale 'industrial' agricultural production of a handful of crops, produced in part for export rather than solely for domestic markets or self-sufficiency. As Rudel et al. (2009) explain:

> 'From the 1960s to the 1980s, small-scale farmers with state assistance deforested large areas of tropical forest in Southeast Asia and Latin America. As globalisation and urbanisation increased during the 1980s, the agents of deforestation changed in two

> important parts of the tropical biome, the lowland rainforests in Brazil and Indonesia. Well-capitalised ranchers, farmers, and loggers producing for consumers in distant markets became more prominent in these places and this globalisation weakened the historically strong relationship between local population growth and forest cover' (p1396).

Recent satellite data support these claims. DeFries et al. (2010) analyse data for the decades from 1990-2010 and conclude that 'forest loss is positively correlated with urban population growth and exports of agricultural products for this time period' (p178). Further, these authors find that 'rural population growth is not associated with forest loss' (ibid.). Other authors support these findings, with Butler and Laurance (2008) contending that 'rather than being dominated by rural farmers, tropical deforestation now is substantially driven by major industries and economic globalisation' (p469). The understanding of contemporary deforestation that emerges from these (and other authors') findings were consolidated and writ large in a report (Kissinger et al., 2012) prepared for the UK Department of Energy and Climate Change (DECC) in 2012. This report is worth quoting at length:

> 'Proximate or direct drivers of deforestation and forest degradation are human activities and actions that directly impact forest cover and result in loss of carbon stocks. *Agriculture is estimated to be the proximate driver for around 80% of deforestation worldwide*. Commercial agriculture is the most important driver of deforestation in Latin America (around 2/3 of total deforested area). In Africa and (sub)tropical Asia it accounts for around 1/3 of deforestation and is of similar importance to subsistence agriculture. Mining, infrastructure and urban expansion are important but less prominent' (emphasis added; Kissinger et al., 2012:5).

Kissinger et al.'s (2012) statement attributing 80 percent of contemporary tropical deforestation to agriculture has become a common reference point in the deforestation literature. As a result, in recent years – and unequivocally since the publication of their report – an understanding has become embedded that agricultural production, at a commercial scale and often with a fraction of production traded internationally, is the primary driver of tropical deforestation. From this understanding comes the term 'traded deforestation', which will be used often by this study. The simplicity of the understanding that agricultural production drives deforestation is only advanced by the mere handful of commodities that are implicated.

This section will turn to those commodities shortly. Beforehand, however, it is essential to recognise that significant regional differences remain within commercial agriculture's role as the primary driver of deforestation. These differences are acknowledged by Kissinger et al. (2012),

including in the above quote, but it is worth reiterating, specifically that: agricultural production is a particularly strong driver in the Amazon Basin (responsible for two-thirds of tropical deforestation), and a lesser, though still strong, driver in southeast Asia (one-third of deforestation; Kissinger et al., 2012). As noted earlier, Brazil's Amazon Basin and southeast Asia (especially Indonesia) are also the two regions where deforestation rates are currently highest. This strengthens the hand of the commercial agriculture explanation, since it holds most true for precisely those locations where deforestation is currently most rapid. In contrast, in the Congo Basin of Africa, the third tropical forest region, Fisher (2010) explains that 'the old patterns of forest loss' (p375) remain paramount, adding:

> 'Here, the slow expansion of subsistence or smallholder agriculture, and the extraction of primary products such as wood fuel, timber and charcoal for domestic use, are the dominant drivers of deforestation' (p375).

In more than one way, the fact that rural farmers are the main drivers of African deforestation is unfortunate: it pits the environmental objectives of addressing deforestation directly against the interests, livelihoods and security of some of the planet's poorest people. Boucher (2010) expresses relief that deforestation in the Amazon and southeast Asia avoids this contention, when he writes,

> 'But at least we now understand that we are not choosing between protecting forests and feeding poor farmers. Deforestation is largely a business proposition, driven by the demands of far-off consumers' (p2).

Several claims within this quote will be questioned by this study. Firstly, Chapter 4 will demonstrate that the exported fractions of relevant commodities to 'far-off consumers' are sometimes minimal and with only one exception – soya – comprise less than a quarter of the total production of any given commodity. Domestic demand is therefore at least as important as the demands of 'far-off consumers'. Secondly, Chapter 2 will query whether it is actually demand from consumers that drive this production in the first place, noting instead that for some commodities, such as palm oil, production is substantially driven by supply-side support, such as subsidies and government-provided infrastructure. And finally, although palm oil production in southeast Asia is certainly a commercial proposition, smallholders still manage just under half of total planted area (World Bank, 2010). As Chapter 6 will show, the palm oil-producing countries of Indonesia and Malaysia are emphatic about the employment and economic benefits that accrue to smallholder farmers from production of that crop, as if to provide a counter-narrative to the one cemented by Kissinger et al. (2012) and others.

Nevertheless, Boucher's (2010) succinct quote neatly reflects the understanding of traded deforestation that has been enshrined in the advocacy, activism and responses of downstream actors concerned about forest loss. Yet the implication of 'commercial agriculture' in deforestation lacks specificity; research has therefore sought to identify the *particular* commodities that are most implicated. Admittedly, these commodities have not been unduly difficult to discern.

A research report by the European Commission – the 'Impacts of Consumption' report (EC, 2013a) – identified the commodities with the highest potential connection to deforestation imported by the EU. The report's top ten list, which was further delineated by country, included soya, beef, cacao, palm oil and nuts from Brazil. A similar report by the International Institute for the Environment and Development (IIED) in turn identified five 'forest risk commodities', closely matching those on the EU's list; namely palm oil, soybean, cacao, beef/leather and biofuels (Walker et al., 2013). In the same year, Climate Advisers, an US-based environmental advocacy group, stated that 'the production of just four commodities (soy, palm oil, beef and pulp/paper) accounts for the majority of global deforestation' (Purvis et al., 2013:i). A Chatham House report produced a somewhat longer list when it claimed that, 'Globally the crops most heavily associated with deforestation are soy, maize, oil palm, rice and sugar cane, while more than half the total is associated with pasture and feed for cattle' (Brack and Bailey, 2013:vii). While some discrepancies do exist, these reports from a government, two institutes and an advocacy group were in concurrence on the importance of soya, palm oil, beef and pulp/paper.

Within the private sector, major multinational companies such as Nestlé and Unilever have also sought to identify the commodities for which they could be pursuing more sustainable sourcing. Each of these retailers listed commodities of concern as follows. Nestlé, as set out within its Responsible Sourcing Guidelines (RSGs; 2013), lists (in order) *palm oil*, *paper/board*, sugar, *soya*, cacao, coffee, dairy, fish and seafood, meat, poultry and eggs, and vanilla, hazelnuts and shea (*emphasis added*). Unilever, on the Sustainable Sourcing section of its website, lists the following (in order): *palm oil*, *paper/board*, *soy* and oils, tea, fruit and vegetables, cacao and sugar, and eggs and dairy (*emphasis added*; 2014). These two lists introduce several additional commodities to the short lists detailed above, many of which – eg. eggs, seafood – are clearly separate to these retailers' expressed concern with tropical deforestation. For present purposes, there is nonetheless a prominence given by these retailers to four commodities - soya, beef, palm oil and paper/board – that are now familiar from each of the lists above. The agreement between downstream actors, from the public sector, private sector and civil society, has enabled these four commodities to become known collectively as 'forest risk commodities' (Rautner et al., 2013:14; Walker et al., 2013:5) or 'deforestation-related commodities' (Brack and Bailey, 2013:1), but this study will often refer to them simply as the 'deforestation commodities'.

So then, what is the evidence impugning these deforestation commodities? For Latin America, two of these commodities – beef and soya – are especially pertinent. Recall that Kissinger et al.'s report for DECC (2012) claims, 'commercial agriculture is the most important driver [of deforestation] in Latin America' (p5), a statement that Barona et al. (2010) echo, noting that 'agricultural land-use changes have been the major driving force behind land-cover transformation in Latin America' (p1). These broad claims are furnished with evidence by Gibbs et al. (2010), who find that over the period 1980 to 2000, half of the expansion of pasture land (which increased by ~350 000 sq km) and croplands (~70 000 sq km) in Latin America came at the expense of forests, with nearly a quarter more from disturbed forests.

Other authors (eg. Walker et al., 2013) have found an even greater imbalance in the attribution of deforestation to pasture, contending that fully three-quarters of deforestation in the Brazilian Amazon occurred at the hands of expanding cattle ranches. At least one study, however, has sought to challenge (or at least nuance) this apparent consensus on the primary culpability of cattle pasture Brazilian deforestation. Barona et al. (2010) found that that the expansion of soybean production may actually be displacing pasture further into the forest frontier, which makes soya 'one of the major underlying causes' of deforestation in the Amazon (p8). This finding further reinforces the authors' claim that, like elsewhere within the tropics, the 'dynamics of land use change' in the Brazilian Amazon are 'complex' (ibid.). What is clear, however, is the entanglement of commercial-scale beef and soya production in contemporary Amazonian deforestation.

In southeast Asia, the other region where widespread clearing of tropical forests is occurring, another of the deforestation commodities – palm oil – is fingered as the primary culprit. Again according to Gibbs et al. (2010), although in the 1980s expansion in tree plantations came from 'a range of plantation crops' (p16734), by the 1990s more than 80 percent of the expansion of agricultural land was due solely to oil palm (ibid.). The expansion of agricultural land does not necessarily have to come at the expense of forests, of course, although these authors find that across southeast Asia, it generally did. Gibbs et al. (2010) find that nearly 60 percent of the expansion of agricultural land in southeast Asia between 1980 and 2000 came at the expense of intact forests, with more than 30 percent coming additionally from disturbed forests. For some locations within this region, these figures are even more dramatic, further supporting the notion of the deforestation 'hotspots' that Hansen et al. (2008) identified. On the island of Sumatra in Indonesia, for example, almost *all* agricultural expansion occurred at either the expense of intact forest (itself more than 75 percent) or disturbed forest during the same period (Gibbs et al., 2010).

More recent data reveals the consequences for forests of the expansion of oil palm in Malaysia and Indonesia, which together account for around 90 percent of total global production (USDA, 2015). Using data from 1990 to 2005, Koh and Wilcove (2008a) found that 55–59 per cent of oil palm expansion in Malaysia (8 340 – 11 090 sq km of a total of 18 740 sq km), and over 56 per cent of expansion in Indonesia (13 130 –17 070 sq km of a total of 30 170 sq km) occurred at the expense of natural forest cover. For the longer period between 1990 and 2010, another group of authors reporting for the Roundtable on Sustainable Palm Oil's Greenhouse Gases Working Group, produce the following synopsis:

> 'Forest conversion to establish oil palm, including both undisturbed and disturbed forest in both upland and swamp forest habitats summed [between 1990 and 2010] was proportionally greatest in Papua (61%: 33,600 ha), Sabah (62%: 714,000 ha) and Papua New Guinea (54%: 41,700 ha), followed by Kalimantan (44%: 1.23 M ha), Sarawak (48%: 471,000 ha), Sumatra (25%: 883,000 ha) and Peninsular Malaysia (28%: 318,000 ha)' (Gunarso et al., 2013:29).

Summing these figures for each country respectively, these authors find that 15 030 sq km of forest in Malaysia and 21 466 sq km of forest in Indonesia was cleared between 1990 and 2010 in order to plant palm oil (with 417 sq km cleared in neighbouring Papua New Guinea). These figures suggest the gigantic magnitude of forest clearing that has taken place in southeast Asia to enable palm oil planting. With respect to the impact on biodiversity that could result from this clearing, Koh and Wilcove conclude that 'oil palm may well be the single most immediate threat to the greatest number of species' (2008b:68). With respect to that forest's carbon values, the planting of palm oil on peatlands is particularly problematic; Agus et al. (2013) find that 18 percent (24 000 sq km) of palm oil's total spatial footprint in Indonesia and Malaysia provided 'the source of approximately 64 percent (118 million metric tonnes) of total carbon dioxide emissions from industrial scale oil palm plantations' (p65).

The remaining 'deforestation commodity' is the timber-derived pulp, paper and board. These commodities are produced from agro-forestry plantations – often of acacia, eucalyptus or other fast-growing species – rather than forests themselves. In this sense, these commodities bear much the same relationship to deforestation as the commodities of soya, beef and palm oil; forest is cleared to create land for plantations.

There is also another relevant yet more complex relationship between timber and deforestation, which relates specifically to the selective-logging of timber from forests *without* clearing them. Does the fact that forests are not simultaneously cleared mean that timber harvesting is not implicated in deforestation? While Kissinger et al. (2012) implicate logging in tropical

deforestation, its role is as an *indirect* driver, reflecting that while timber harvesting does not itself drive deforestation, it frequently *precedes* the clearing of land for agriculture (Williams, 2008; Gunarso et al., 2013). But selective logging can also lead to deforestation, since it changes the forest from a primary into a secondary, altered or fragmented state, making land claims for agricultural and mining purposes more likely to be allocated to those areas. Even in the absence of causality between the two, however, the frequent sequence of 'logging-before-clearing' casts new importance on Asner et al.'s (2009) finding that although 275 000 sq km of tropical forests were cleared between 2000 and 2005, there was evidence of selective logging across an area 15 times this size (almost 4 million sq km). These figures suggest the likelihood that enormous tracts of forests, already logged, are at high risk of being cleared for agriculture. Furthermore, although the Congo Basin is the tropical forest region least disturbed by contemporary clearing – and least affected by large-scale commercial agriculture – there is an upward trend in selective logging (Laporte et al., 2007, in Rudel et al., 2009) which in turn suggests a climbing risk level of deforestation for Africa's rainforests.

Taken in aggregate, this research confirms the signal importance of the four 'deforestation commodities' as major drivers of contemporary deforestation. These commodities are also most important in the locations where contemporary deforestation is most rapid (beef and soya in the Brazilian Amazon; oil palm in Indonesia and Malaysia); in other words, the commercial agriculture explanation of deforestation is best supported in the forests suffering from the most extensive clearing. And while it is important to differentiate between timber's two distinct relationships to deforestation, as selectively-logged timber and as the pulp, paper and board from agro-forestry plantations, each of these relationships nonetheless connects timber to deforestation.

Responses by downstream actors to deforestation have undoubtedly been both prompted and enabled by the potency of the 'deforestation commodities' explanation. Despite its clarity and significance, however, this understanding of deforestation is only partial. Before the second half of this chapter turns to introducing this study's responses, then, a brief overview of the other drivers of contemporary deforestation is warranted. The utility of a richer understanding of deforestation underpins Chapter 4's finding that one limitation acting on current responses by downstream actors is their implicit framing of deforestation as a process driven solely by the aforementioned commodities.

In a wide-ranging study of deforestation, Geist and Lambin (2002) divide its causes into the two categories of 'proximate' and 'underlying' (an approach that Kissinger et al., 2012, emulate) to signify that deforestation is a symptom of both shallow (direct) and deep (indirect) causes. In the

'proximate' category, which is roughly analogous to 'direct' causes, the authors list infrastructure extension, agricultural expansion and wood extraction; in the 'underlying' category, roughly analogous to 'indirect' causes, are demographic factors, economic factors, technological factors, policy and institutional factors, and cultural factors (Geist and Lambin, 2002:143). The authors conclude that 'the causes of deforestation are multiple and complex and vary from country to country', but tropical forest cover losses are 'best explained' by *synergies* between proximate and underlying causes (emphasis added; p146).

More recently, DeFries et al. (2010) single out two variables as highly correlated to contemporary deforestation: urban growth and agricultural exports. Making a distinction between correlation and causation, Cardille and Bennett (2010) note the absence within this research of a mechanistic understanding of why these relationships should be so significant. Given Geist and Lambin's (2002) emphasis of its multiple and complex causes, however, perhaps the absence of known mechanisms is unsurprising. Ultimately, DeFries et al. (2010) echo Geist and Lambin (2002) in concluding that 'the pressures from these direct and indirect forces probably vary among countries and require country-specific analysis to develop effective approaches to reduce deforestation' (p180).

The complexity emphasised by multiple of these authors can be borne out even in the multiple ways that forests are affected by a single proximate, or direct, cause of deforestation, such as the expansion of oil palm plantations. Firstly, it is clear that the effects on forests can extend beyond the area on which palm oil is later produced, as evidenced by the fact that the forest areas cleared ostensibly for oil palm plantations are often greater than the area subsequently planted (Sheil et al., 2009). Secondly, other impacts on forests come from 'the increases in access, population and proximity to forest edges' (Sheil et al., 2009:33), which might be termed 'underlying' causes of further deforestation.

Indeed, roads are themselves a significant driver of forest disturbance, making the proposed expansion of roads through, for example, the Brazilian Amazon (Ahmed et al., 2013) and the largest remaining tract of forest in central Thailand (also a UNESCO World Heritage Site; Erickson-Davis, 2014) a source of concern. Indeed, Barber et al. (2014) find that '~95 percent of deforestation in the Brazilian Amazon occurs on land less than 5 kilometres from a road or navigable river' (p203). These concerns led Laurence et al. (2014) to publish a 'Global strategy for road building' to – in the spirit of Boucher et al. (2011) – guide land use change to places where it does the least damage. Yet even before these findings and road-building strategy, the European Parliament had already recognised the role of roads as an indirect cause of deforestation, backing

an initiative from one of its Greek members to prevent roads being built specifically through intact tropical forests (Roadfree, 2013).

While roads accompany nearly all development within tropical forests, some locations are experiencing deforestation from more direct, or proximate, causes, such as mining. A study of the Madre de Dios region in Peru, for example, found that 'deforestation for gold mining now exceeds all other forms of forest loss combined, including ranching, agriculture and logging' (Asner et al., 2013:18456). In Indonesia's Kalimantan provinces, coal mining permits cover nearly a quarter of the total land area; for the province of East Kalimantan, the figure is nearly one half (Fogarty, 2014a). Indeed, a single coal mine – 75 percent is owned by the Australian mining behemoth, BHP Billiton – within East Kalimantan currently has concessions covering an area of 3 500 sq km, or five times the size of Singapore (Fogarty, 2014b). Clearly, mining developments threaten large areas of tropical forests across multiple tropical regions.

Beyond the deforestation hotspots, then, where commercial agriculture can be identified as the primary (proximate, or direct) driver, the only consensus within current science is that deforestation has multiple, complex and interacting causes that differ both regionally and by location. Some authors, such as Houghton (2012), contend that shifting cultivation remains the foremost driver of deforestation (when measured in carbon emissions), while other authors note that in some locations, such as Papua New Guinea, subsistence agriculture (some of which may be shifting cultivation) causes a much higher proportion of deforestation (47 percent) than in most others (Boucher et al., 2011).

Concluding with a more philosophical perspective, at least one historian identifies an overarching context that might be responsible for generating both proximate and underlying causes of tropical deforestation. In Williams' (2008) comprehensive article, he writes (quoting Eckholm):

> 'uncontrolled clearing "is a symptom of society's inability to get a grip on other fundamental development issues" [so that]... almost everywhere destroying rainforest is a means of avoiding tackling real problems by pursuing chimeras: a "license to print money" that yields quick cash at the cost of ultimate catastrophe' (in Williams, 2008:347).

Whether or not Eckholm's logic here appeals, there is no doubt that human societies continue to destroy tropical forests despite myriad reasons for conserving and protecting them. International trade in the deforestation commodities implicates downstream societies in that destruction, with the implication that the problem of deforestation cannot be confined to the jurisdictions where tropical forests reside. In recognising this, actors within downstream societies have enacted a distinct set of responses, which this chapter now turns to introducing.

Downstream responses to tropical deforestation

The first half of this chapter detailed the accelerating magnitude of contemporary deforestation. It also presented this study's first building block: the coalescence of an understanding that just a handful of commodities – palm oil, beef, soya and timber – have become the primary driver of deforestation, especially within the hotspots where it has recently been concentrated.

1. This half of the chapter now turns to this study's second building block: a distinct set of responses to tropical deforestation that have emerged from downstream actors beyond the tropics. To qualify within the framework of this study, responses satisfy two characteristics: Responses share an *objective* to slow tropical deforestation, and
2. Responses function through a shared *mechanism* in seeking to affect trade in, and consumption of, internationally-traded fractions of the deforestation commodities.

This study's responses are therefore united by, firstly, an understanding of the role of the four major deforestation commodities, and secondly, by an acceptance that international trade in these commodities connects downstream societies, and specific actors, to that deforestation. Thus the emergence of these responses implicitly – and sometimes explicitly – validates the premise that tropical deforestation is an *internationalised* or transnational environmental problem that extends beyond the tropics. Chapter 2 will demonstrate that responses to tropical deforestation provide an unparalleled case study for exploring how downstream actors perceive and respond to a connection to a major, yet distant, environmental problem. Chapter 3 will then further clarify the nature of these responses by locating them within relevant environmental governance literatures.

The term 'responses' has been carefully chosen to emphasise the centrality of the 'deforestation-for-commodities' understanding as the basis for each of their design and implementation. The term is also general enough to encompass the full range of instruments and interventions explored by this thesis, despite the many and often clear differences between them otherwise, for example between the US Lacey Act Amendments (a piece of illegal logging legislation) and the Forest Stewardship Council (an NGO-industry Roundtable). Without eliding these differences, this thesis takes as its platform for analysis the two shared characteristics specified above. These two commonalities are primary and demarcate the boundaries of this study, whereas other differences, while still substantial and relevant, are secondary and play out within those boundaries.

Many responses that this study will examine, including the Lacey Act Amendments and FSC, may already be familiar to readers. Indeed, many have already been subjected to some examination, *in isolation*, for their potential as responses. Yet this study differs from previous contributions to

forestry governance literatures chiefly in its breadth. This broader scope enables an analysis that goes beyond any single response, and also beyond any single response-*type*, to identify patterns and themes emerging across the range of these responses. In light of these key patterns and themes, future research will have big picture insights and a readymade backdrop against which to apply scrutiny to a narrower range of responses.

This study's primary research question emerges directly from this broader scope. Gathering responses together on the basis of their shared characteristics enables direct interrogation of their limitations *as a set* in attempting to impact favourably on the problem of tropical deforestation. The study's two sub-questions then distinguish between two broad sources of limitations on responses, namely those that emerge from their design and those that emerge from their (and actors') behaviour. These sub-questions are component parts of the primary research question, and in that sense provide discrete, partitionable approaches that are then assembled, in Chapter 7 and the Conclusion, to provide a comprehensive answer to that primary question.

The remainder of this chapter presents responses, in chronological order, beginning with the emergence of the Forest Stewardship Council in the early 1990s. Although some of these responses have been examined at the level of individual responses (eg. Auld et al., 2008), and others even at the level of responses-types (eg. Mayer and Gereffi, 2010; Steering Committee, 2012), the findings from these literatures will not be surveyed comprehensively here. The intention behind the remainder of this chapter is merely to present sufficient information on each response to establish a platform for further analysis in the conceptual and empirical chapters to come. Responses are characterised as either 'policy', 'regulatory' or 'institutional', where 'policy' indicates an internal or unilateral decision made by an actor and affecting that actor's own supply chains, 'regulatory' indicates a decision made by government that has implications for other actors and is grounded in law, and 'institutional' indicates the creation or formation of a new entity or actor. Collaborative responses are noted in Table 1.1 where relevant.

Following the first of each response-type (eg. the FSC is a sustainability scheme), other responses within that response-type are then introduced. A timeline for the emergence of responses over the last two decades can be found in Figure 1.1 below. This chronological account allows for the identification of two, roughly decade-long *phases* of (mainly) Western responses to tropical deforestation. The first of these phases begins with the formation of the Forest Stewardship Council in the early 1990s and the related announcements of company sourcing policies for timber. The second phase dates roughly from 2004, and is characterised by new response-types (such as illegal logging laws and biofuels frameworks), the emergence of responses for the

Table 1.1 Key characteristics of responses included in this study.

Response	Actor(s)	Example (individual response)	Policy, regulatory or institutional?
Company sourcing policies	Companies, industry associations		Policy
Public procurement policies	Governments	8 national timber policies, UK palm oil procurement policy	Policy
Illegal logging legislation	Governments (national/inter-j)	Lacey Act, EU TR, Australian Prohibition	Regulatory
Biofuels framework	Governments (national/inter-j)	EU Renewable Energy Directive, US Fuels Standard 2	Regulatory
Forest governance program	Governments (inter-jurisdictional)	FLEGT	Regulatory (but FLEGT licences are institutional)
Inter-governmental agreements	Governments (national/inter-j)	CITES	Regulatory (collaborative)
Sustainability schemes (incl. Roundtables)	Companies all along supply chains, traders, producers, NGOs, banks	FSC, PEFC, RSPO, RTRS etc.	Institutional
Collaborations	Companies, governments	CGF, TFA	Policy (collaborative)

non-timber deforestation commodities of palm oil, beef and soya (such as the RSPO), and increasing levels of collaboration both within actor groups and between them. It is these characteristics that signal an intensification over the last decade in the 'age of experimentation' with supply chain-focused responses to tropical deforestation.

Excluded from this study's remit are several further initiatives that are characterised by their focus on financing the production of the deforestation commodities, rather than supply chains for those commodities. Specifically, these initiatives include aid programs that facilitate more sustainable production of crops such as palm oil, including where aid is directed towards achieving certification (a topic that itself raises interesting questions). Voluntary financing guidelines developed for banks for lending to (eg.) palm oil production are similarly excluded, though they may nonetheless comprise an important part of overall efforts to respond to tropical deforestation (as do domestic policies and programs within tropical forested countries).

Excluding these initiatives allows for greater conceptual purity, by enabling supply chain responses to be scrutinised in light of their aforementioned distinctive features.

Sustainability schemes

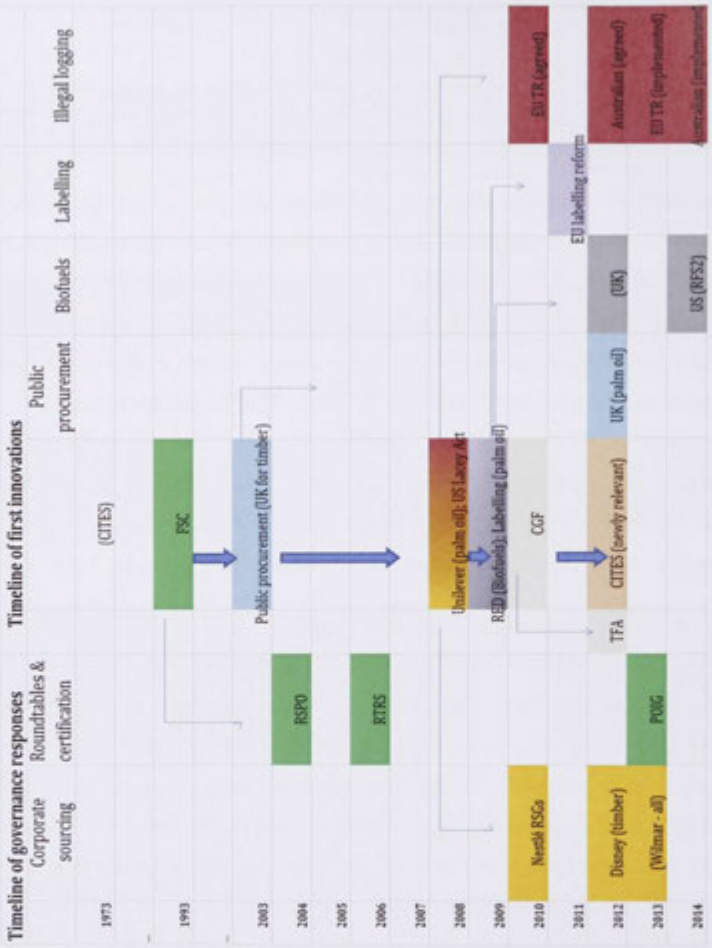
Forest Stewardship Council

As concern mounted over accelerating tropical deforestation throughout the 1980s and early 1990s, proposed inter-governmental responses from both the International Tropical Timber Organisation (ITTO) and the United Nations (UN) were thwarted by timber-producing countries (Auld et al., 2008). This stalemate at the governmental level provided the impetus for what Cashore et al. (2004) identify as 'non-state, market driven' initiatives, and which have otherwise been referred to as a core feature of the 'private governance' landscape (Clapp, 1998), but which to many are probably more familiar as certification. The prior existence of the FairTrade certification scheme for select agricultural commodities provided a blueprint for the Rainforest Alliance's 'Smartwood' scheme for timber, which was operationalised in 1990. This was followed – and soon eclipsed in scale – by the Forest Stewardship Council (FSC) in 1993 (Synnott, 2005).

The FSC was originally an alliance between the Worldwide Fund for Nature (WWF, formerly the World Wildlife Fund) and environmental, indigenous and business interests that together foresaw 'the need for a system that could credibly identify well-managed forests as sources for responsibly-produced forest products' (FSC, 2014a). A large part of the motivation behind the FSC's formation was to provide an alternative to proposed bans and boycotts of tropical timber, which the failure of inter-governmental responses had made attractive to some actors. Crucially, however, the FSC did not limit its mandate to tropical timber but expanded it to focus on sustainable forest management globally (ibid.). As currently stated, the FSC's mission is to ensure and encourage forest management that is 'environmentally appropriate, socially beneficial and economically viable', three objectives that are reflected in its three-chambered governance system (FSC, 2014b).

The growth in FSC-certified area has been strong since the organisation's formation, with over 184 million hectares of forest (1.8m sq km) worldwide FSC-certified in December 2014 (FSC, 2014c). The importance of the FSC opting for a global mandate is revealed by the fact that the vast majority of FSC-certified forests are situated outside the tropics. In fact, only just over 10 percent

Figure 1.1 Timeline of innovation in response-types for tropical deforestation.



of FSC-certified area (representing 189 000 sq km) is classified as tropical/subtropical, with the majority instead situated in Europe (44 percent) and North America (38 percent) (ibid.). The FSC has also evolved since its formation to begin certifying supply chains ('Chain-of-Custody') and timber plantations in addition to its original focus on forest areas ('Forest Management Units; FMUs) and managed 'natural' forests, respectively. The FSC has also launched a 'Mixed Sources' standard where a minimum of 70 percent of timber supplies must be certified to its standard, with the remainder coming from 'controlled sources' but not needing to be certified. Each of these decisions – to certify plantations, and to develop Chain-of-Custody and Mixed Sources certification – has been controversial, and following these decisions the FSC lost support from some environmental groups, such as the Rainforest Foundation UK and the European forest group,

FERN (Mongabay, 2013a). In 2013, the major environmental NGO, Greenpeace, launched a series of case studies on the FSC, some of which critiqued the organisation for certifying companies that fell short of the FSC standard (ibid.). (Participants in this study, some of whom are from the FSC, provide their own critiques in later empirical chapters.) Nonetheless, Greenpeace and several other NGOs, including the WWF, contend that forest certification is both beneficial and worthwhile, and that 'the FSC represents the best option among several competing standards' (ibid.).

Programme for the Endorsement of Forest Certification

The Programme for the Endorsement of Forest Certification schemes (PEFC) is also a forestry certification organisation, and widely considered to be a rival of the FSC. (The dynamics of this rivalry, and its consequences for actor behaviour, are explored in empirical Chapter 5.) The PEFC's origins were largely reactive: the formation of the FSC sparked the development of alternative standards from national forestry industries in North America, Europe and some tropical countries, such as Brazil, Indonesia, Malaysia, Gabon etc. (Auld et al., 2008). While each of these countries established its own national forestry scheme (or standard), from the late 1990s these schemes began coalescing into an umbrella scheme – the PEFC – which took its current name in 2003.

The PEFC prides itself on emerging from national forestry industries, rather than being driven by 'urban NGOs', a difference that it claims makes it more amenable to national interpretations of sustainability within the countries where it operates (Price, 2011). Indeed, this is a key functional difference between the FSC and PEFC, where the latter endorses nationally-developed forest management standards, while the former predominantly certifies FMUs. (The PEFC now also certifies chains of custody.) In December 2014, the PEFC had a certified forest area of 2.6 million sq km, greater than the 1.8 million sq km of the FSC, yet similarly concentrated in North America and Europe. Of the 35 national standards it has now endorsed, the PEFC has been extending its coverage of tropical forests, with recent endorsement of the national systems of Indonesia and China (both in 2014) following prior endorsement of Malaysia and Gabon (both 2009) and Brazil (2005)(PEFC, 2014).

Other Roundtables

Following its experience with the FSC, the WWF, together with other NGO and corporate actors, pushed to establish sustainability schemes of a similar type – Roundtables – for several other commodities relevant to this study. The WWF's role in driving the formation of these institutions

efforts is inspired by its 'Market Transformation Initiative', a comprehensive strategy focused on the '15 commodities that have the greatest impacts on biodiversity, water and climate' (WWF, 2012:2). These commodities explicitly include the deforestation commodities, or 'five largest drivers of deforestation': timber, pulp and paper, palm oil, soy and beef (ibid.). While timber, pulp and paper all fall within the ambit of the FSC, the latter three – palm oil, soy and beef – each have a dedicated Roundtable of their own, which this section will now briefly detail.

The Roundtable on Sustainable Palm Oil (RSPO) was established in 2004 with a vision to make 'sustainable palm oil the norm' (RSPO, 2014a). The organisation has members from the entire length of the palm oil supply chain, including (inter alia) producers, traders and retailers, social, environmental and indigenous NGOs, and financiers of palm oil projects. The RSPO seeks to 'develop, implement, verify, assure and periodically review credible global standards for the entire supply chain of sustainable palm oil' (ibid.). In practice, this means emulating the FSC in formulating a set of principles and criteria ('P&C', or 'standard') that all members (though especially producers) must adhere to. The first RSPO standard was adopted in 2007, with a first systematic review completed in 2013 (RSPO, 2014b).

The RSPO has rapidly gained traction in global palm oil markets: by 2012, the organisation had over 1000 members and had certified over 14 percent of global production (RSPO, 2012). Yet given the strong implication of palm oil in southeast Asian deforestation, the organisation has faced criticism for the weakness – and sometimes absence – of relevant environmental criteria; even following the first strategic review of its standard in 2013, the Rainforest Action Network (RAN), an NGO, alleged that the RSPO does not 'have a credible standard include mechanisms 'to protect against conversion of carbon-dense rainforests and peatlands for oil palm plantations' (in Mongabay, 2013b).

In 2013, following the completed review of the RSPO's P&C, a new entity - *the Palm Oil Innovation Group (POIG)* – was formed. At its launch, the POIG was explained as 'a group of progressive palm oil companies [that], together with environmental and social NGOs, [intends] to push the boundaries of current requirements of the RSPO' (POIG, 2013:1). The announcement continued, saying that 'the POIG will demonstrate that by setting and implementing ambitious standards that stretch the RSPO standard, we can break the link between deforestation and social conflict and palm oil' (ibid.). Given the rivalry that emerged between the FSC and PEFC, it is important that the POIG explicitly avers its intention *not* to become a rival to the RSPO. To this end, the POIG has not developed an alternative sustainability scheme (although it is designing a Charter by updating several RSPO P&C). Rather, the POIG 'seeks to have [its] innovations rolled out across the palm oil industry and reflected in the RSPO standard' (POIG, 2013:2).

In 2006, the *Roundtable on Responsible Soy (RTRS)* was established by an alliance of industry participants along the soy supply chain, together with NGO partners. The RTRS developed its P&C in 2010, certifying the first soybeans under the scheme in 2011, and in 2012 certified almost 1 million tonnes of soy (WWF, 2013b). In contrast to the RSPO, the RTRS standard 'ensures that... clearance of native forests and high conservation areas' is avoided (ibid.). This has not satisfied all of the RTRS' critics, however, since the most polarising issue for the RTRS standard is instead whether genetically-modified soy should be permitted to become certified (which under the current standard is permitted; GM Freeze, 2010).

The production context for soybean has been markedly different to other deforestation commodities, by virtue of an Amazon-wide moratorium on deforestation for soybean production. This *'soy moratorium'* was implemented in 2006 by an alliance of domestic industry participants, multinational companies, NGOs and – critically – the Brazilian Ministry of the Environment, which uses INPE's satellite monitoring to support the program (Walker et al., 2013). The RTRS therefore operates in a governance context that is supportive of its mission, a situation that paradoxically may undermine the grounds for its existence as a safeguard. The RSPO, for example, operates against an entirely different backdrop, where the governments and industrial actors of the two main palm oil producers – Indonesia and Malaysia – have instead sought to develop national standards as alternatives to the RSPO (Djama et al., forthcoming).

For the last of the deforestation commodities – beef – a Roundtable has also been devised. The *Global Roundtable for Sustainable Beef (GRSB)* is a global, multi-stakeholder initiative developed 'to advance continuous improvement in sustainability of the global beef value chain through leadership, science and multi-stakeholder engagement and collaboration' (GRSBa, 2014). Yet crucially, the GRSB 'does not intend to develop standards or create a certification system' (GRSB, 2014b:2), marking a different approach from that taken within the Roundtables for timber, palm oil and soya. In late 2014, the GRSB approved its first set of P&C, which includes one criterion that 'native forests are protected from deforestation' (GRSB, 2014a). Like soybean, the governance context for the GRSB in the Amazon (the primary region of tropical production) is largely supportive of greater transparency, legality and sustainability. In 2009, following the success of the soy moratorium, Greenpeace also signed an agreement with Brazil's four largest meatpackers to purge deforestation from their supply chains (the *'G4 Agreement'*; Walker et al., 2013).

Beyond these Roundtables are a number of more boutique, or niche, sustainability schemes for commodities including timber and palm oil. Increasingly too, new schemes have emerged based on legality, which verify compliance with laws, rather than sustainability (see Cashore and Stone,

2012). The impetus for this new baseline undoubtedly stems from the requirements of due diligence enacted under several jurisdictions' illegal logging laws (see further below).

Sourcing policies

Corporate sourcing policies

For major companies, based or headquartered in downstream jurisdictions for any of the deforestation commodities, becoming a member of a Roundtable usually requires a commitment to source only certified versions of that commodity (often by a given date). These commitments, or sourcing policies, are the primary means available to companies to respond to their entanglement with the deforestation commodities. Sourcing policies do not necessarily need to rely explicitly on existing sustainability schemes (the interesting permutations of these relationships are explored fully in Chapter 5); yet they often do, and for sustainability schemes these policies are also the primary means through which they induce producers to undergo certification.

Not coincidentally, the first corporate sourcing policies for timber emerged simultaneously with the FSC in the early-mid 1990s, as the formation of that institution created a tool that became the common reference point for both designing and assessing these policies. The first major sourcing policies announced for palm oil, in contrast, were those of Unilever and Nestlé, two major retailers headquartered in the UK and Switzerland respectively. The format of these policies was typical for the time (and commodity): a commitment to source only RSPO-certified palm oil supplies by 2015 (although interestingly, both companies have now adopted palm oil standards that go beyond the RSPO's).

Company sourcing policies do not emerge from a vacuum. Since the formation of Roundtables for each deforestation commodity, NGOs have been pivotal in pressuring companies to devise policies that commit them to the purchase only certified versions. Sometimes NGOs have employed combative methods to achieve this end; for instance, in a now-famous mock advertisement from 2009, Greenpeace showed a block of Kit Kat, Nestlé flagship chocolate, containing an orang-utan finger, to signify the company's use of palm oil from threatened forests. These campaigns are often successful in prompting companies to respond, as showed by Nestlé's subsequent engagement of a supply chain consultancy, The Forest Trust (TFT), to help design its Responsible Sourcing Guidelines (Nestlé, 2013)

Not all types of companies have responded equally to their connection to deforestation, however, nor have NGO campaigns equally targeted these different types. In both cases, the companies that

have tended to develop and publicly announce sourcing policies for the deforestation commodities are concentrated in the retail sector, with supermarkets and – to a much lesser extent – manufacturers and traders sometimes following suit. (The announcement of sourcing policies from major palm oil, soya and beef traders during 2014 has partly remedied this imbalance, though retailers remain the most prominent adopters.) The bias towards major retailers is not coincidental: these companies are generally well-known brands that are subject to both NGO campaigns and consumer boycotts, making sourcing policies attractive – if for no other reason – as a defensive measure.

Public procurement policies

Downstream governments have implemented a range of responses to deforestation, mostly focusing on timber at the expense of other relevant commodities. For this study's purposes, the first responses deployed by governments were procurement policies for their purchases of timber and wood products, such as office paper. Just like a company's sourcing policy, these procurement policies establish product standards that must be met by suppliers to, and contractors operating on behalf of, national governments.

Since the formation of the FSC in the 1990s, the first of these responses to emerge was the UK Government's timber procurement policy, which was enacted in 2003, while other governments – especially within the EU – quickly followed suit. To date, 26 national government procurement policies exist for timber, five of which (the UK, Netherlands, Germany, Denmark and Luxembourg) require timber to be sustainable, while the remainder require it merely to be legal (Brack, 2014). (These legality-based policies have helped to spur the emergence of the legality-based timber verification schemes referred to above.) Furthermore, some of these policies are mandatory, while others are voluntary (Brack and Saunders, 2004). Norway's timber procurement policy is an exception, consisting of a complete ban on tropical timber for publicly-funded projects and office supplies. Finally, there is only one policy so far announced for any other deforestation commodity beyond timber: the UK Government's policy on palm oil, which was announced in 2012 (DEFRA, 2012a).

Illegal logging legislation

In the latter half of the 2000s, around the time that the first major corporate sourcing policies for palm oil were announced, multiple Western governments turned their attention back to international trade in timber. In contrast to the inter-governmental responses they had sought to negotiate in the late 1980s, some twenty years earlier, this more recent attention yielded unilateral regulatory responses and focused on illegal, rather than unsustainable, logging.

US Lacey Act Amendments

In 2008, the United States (US) became the first downstream jurisdiction to enact a law making the import and subsequent trading of illegal timber a prosecutable offence. This was achieved by amending an already long-lived piece of legislation, the Lacey Act, to include timber products within its scope. Prior to the Lacey Act Amendments of 2008, there was no legal basis to prosecute US actors that imported and traded illegal timber, even if that illegality was known. The Lacey Act Amendments were widely supported, in what the Environmental Investigation Agency (EIA) called 'a precedent-setting coalition of environmental, industry, and labour groups' (EIA, 2008:2). Support from the latter two groups was premised mainly on the fact that imports of illegal timber were undercutting the domestic forestry industry within the US. (Some consequences of this support are explored in chapters 4 and 6.)

The amended Lacey Act contains two main operative provisions. Firstly, importers and traders must provide a declaration of their shipments including the scientific name (genus and species) of the timber, its volume and value, and its country of origin (APHIS, 2014). These declarations are designed to 'increase the transparency of the timber and plant trade and enable the US Govt to better enforce the law' (EIA, 2008:2). Secondly, the Lacey Act requires importers and subsequent traders in timber to exercise 'due care', which according to the EIA is defined as 'that degree of care which a reasonably prudent person would exercise under the same or similar circumstances' (Senate Report 97-123, in EIA, 2008:4). However, Cooney et al. (2012) offer the caution that due care is not defined in the Act itself and therefore 'judicial interpretation will be crucial' (p5). An important aspect of the US Lacey Act is its extension to all persons or companies that 'import, export, transport, sell, receive, acquire or purchase' illegally-sourced timber (EIA, 2008:1). The Act provides, however, for the differential application of the requirement of due care to 'different categories of persons with varying degrees of knowledge and responsibility' (Senate Report 97-123, in EIA, 2008:4).

The EU approach: FLEGT and the EU Timber Regulation

In 2003, the EU announced its Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan, which now encompasses two responses relevant to the present study (EC, 2003). The central component of FLEGT was the EU's intention to create 'Voluntary Partnership Agreements' (VPAs) between itself and individual timber-producing countries in the tropics. The idea behind the EU's VPAs is to ensure 'that timber and timber products exported to the EU come from legal sources. The agreements also help timber-exporting countries stop illegal logging by improving regulation and governance of the forest sector' (EFI, 2014a). At the time of writing, in early 2015, the EU had signed VPAs with six timber-producing countries – Ghana, Indonesia, Cameroon, Central African

Republic, Liberia and the Republic of the Congo – but none of these countries had yet completed the necessary requirements (EFI, 2014b). The most significant of these requirements is the development of a 'timber legality assurance system', which once endorsed by the EU allows timber-exporting countries to award 'FLEGT licences' – essentially a stamp of legality approval – to verified consignments intended for export to the EU (EFI, 2014c). Although countries enter into a VPA voluntarily, once the agreement 'enters into force' it becomes 'a legally binding agreement on both sides', meaning that 'the timber-producing country develops systems to verify that its timber exports are legal, and the EU agrees to accept only licensed imports from that country' (EFI, 2014c).

From its inception in 2003, the FLEGT Action Plan included the option for the European Commission to 'review options for… further measures, including, in the absence of multilateral progress, the feasibility of legislation to control the import of illegal produced timber into the EU' (EC, 2003). There were at least two good reasons for the EU to revisit this option in the late 2000s: firstly, the lengthy delays getting VPAs to the point of being operational (at the beginning of 2015, none yet are), and secondly, the emerging evidence that illegal timber increasingly originated outside of the forest concessions (FMUs) that VPAs are focused on (FERN, 2013). More specifically, illegal timber was increasingly derived from agricultural concessions, in line with the accepted understanding of contemporary deforestation expounded earlier in this chapter.

In December 2010, the European Parliament approved its own legislation akin to the US' Lacey Act Amendments, called the EU Timber Regulation (EU TR). The EU TR became operational in March 2013. Like the Lacey Act, the EU TR requires importers to set up due diligence systems to minimise the risk of illegal products entering the EU, with the 30 month window between approval and implementation intended to give importers time to establish these systems (Brack and Buckrell, 2011). Because the EU functions as an amalgamation of countries, however, each member country of the EU is required to enact supporting national legislation for the EU TR which lays out 'effective, proportionate and dissuasive penalties to ensure compliance' (EC, 2013b). Each member country is also required to nominate a 'competent authority' that is charged with carrying out checks on timber importers and otherwise coordinating the application of the regulation (ibid.). This diffusion of authority, which sets the EU TR apart from the federally-instigated Lacey Amendments and the Australian Prohibition (see below), has the potential to lead to discrepancies in the application of the EU TR (Saunders, 2013; FERN, 2013).

The prosecutable offence under the EU TR is placing an illegal product on the internal (EU) market, which confines responsibility to importers of timber products, although subsequent traders are also required to keep records for five years of their trades in foreign timbers (both

upstream and downstream) to encourage greater traceability (Brack and Buckrell, 2011). When the EU Parliament initially proposed this legislation, it sought to apply a broader definition of responsibility that would include (as the Lacey Act does) not just importers but also subsequent traders of illegal timber products (FERN, 2010). That initial proposal was rejected, amidst concerns – which others saw as unjustified – over the administrative burden this would place on 'smaller forest owners and timber traders' (ibid.).

So as not to undermine maturing VPA arrangements, both FLEGT licences (which remain theoretical) and CITES licences (see below) are deemed to automatically fulfil the EU TR's due diligence of legality requirements (EC, 2013c). However, neither sustainability schemes, such as the FSC and PEFC, nor other legality verification schemes fulfil these requirements automatically, though they can nonetheless be used to demonstrate risk mitigation (ibid.).

Australian Prohibition on Illegal Logging

Australia is the third jurisdiction to have implemented legislation targeting imports of illegally-logged timber. In the lead-up to the 2007 federal election, the Australian Labour Party (the government-to-be) announced a policy proposal to prohibit the import of illegal timber; yet it was not until March 2011 when the first exposure draft was introduced to the Australian Parliament (Brack et al., 2012). Three public enquiries then occurred before the Australian Illegal Logging Prohibition Bill was passed by both houses of Parliament in the second half of 2012. The new laws became operational on 30 November 2014, and an independent review of the impact of those laws on small business was subsequently announced on 1 December 2014 (DAFF, 2014a).

The Australian illegal logging laws emulate both the US and EU in requiring importers to develop due diligence systems. The Australian Prohibition laws echo the EU TR, and diverges from the Lacey Amendments, in focusing on 'importers and processors' of illegally-sourced timber, with culpability not passed on through subsequent trades (DAFF, 2014b). In contrast to both the US and EU laws, the Australian laws explicitly accept that certification by the FSC or PEFC, as well as FLEGT licences, comprise sufficient due diligence (ComLaw, 2013).

Biofuels frameworks

While governments' regulatory responses – illegal logging laws – have been exclusively concerned with timber, two governments have begun to account for some other deforestation commodities through their biofuels policy frameworks. 'Biofuels' are plant-derived oil blends that can supplement conventional petrol and diesel (bioethanol and biodiesel, respectively). Both the EU

and the US have major biofuels policy frameworks, which are intended to reduce reliance on imported fossil fuels and to reduce the greenhouse gas emissions associated with burning them.

The EU's biofuels framework is set out in the *Renewable Energy Directive (RED)*, which was updated in 2009 to include a mandatory target for all member states of 10 percent renewable energy in the transport sector by the year 2020 (Johnson et al., 2012). Importantly for the present study, the 2009 version of the RED also introduced a number of sustainability criteria that biofuels must meet in order to count towards the mandatory target. These criteria addressed two sustainability issues – biodiversity and greenhouse gas emissions – and were applied to all biofuels intended to count towards the RED target, including imported palm oil (a biodiesel) and soybean (a bioethanol; Pena et al., 2010). In 2013, the EU Parliament faced pressure to amend the RED framework to recognise that the indirect land use change from some biofuels could make their emissions higher than those of conventional fossil fuels (van Noorden, 2013). In mid-2014, EU Energy ministers voted to resolve this issue by limiting the proportion of the biofuels target that can be met through fuels derived from food crops, otherwise known as 'first generation' biofuels, to 7 of the 10 percent (ICTSD, 2014a), which the European Parliament's environmental committee more recently tightened to 6 percent (Lewis, 2015). A final decision by the European Parliament remains outstanding.

The EU is the world's primary importer of biofuels and as a result its approach to governing the sustainability of imported biofuels has 'transformed the biofuels market' not just in the EU but globally' (Johnson et al., 2012). This has not exempted the US (and, even from within the EU, the UK) from grappling separately with how to ensure the sustainability of imported biofuels. The latest US biofuels policy framework – *the Renewable Fuels Standard 2 (RFS2)* – released in 2014 states that the US Environmental Protection Agency is 'actively continuing its evaluation of biodiesel produced from palm oil' with an expected completion date originally set for later in 2014 (EPA, 2013a), but now clearly pushed to 2015. For the original RFS, the EPA released a preliminary determination finding that 'biodiesel and renewable diesel produced from palm oil do not meet the minimum 20 percent lifecycle greenhouse gas emissions reduction threshold necessary to qualify as a renewable fuel' (EPA, 2011).

Labelling reforms

In each of 2009, 2010 and 2011, an Australian coalition between the then-leader of the Australian Greens Party, Senator Bob Brown, and the independent Senator Nick Xenophon (as well as the National (rural) Party Senator Barnaby Joyce for the 2009 Bill) introduced a draft piece of legislation into the Australian Parliament. The Bill was called the 'Food Standards Amendment

(Truth in Labelling – Palm Oil) Bill', and in each case it sought to achieve something very simple: to force manufacturers using palm oil to label it as such, rather than as the generic 'vegetable oil', on product packaging. The Bill was referred to multiple committees for further review and ultimately not passed by the Parliament.

An Explanatory Memorandum (EM) was circulated for the 2009 Bill outlining the reason for the focus specifically on palm oil, which was due to the commodity's association with tropical deforestation. The EM stated that 'the current production of palm oil, which predominantly occurs in Malaysia and Indonesia, results in extensive deforestation and, as a consequence, the removal of wildlife habitat, namely affecting the endangered orang-utan' (Xenophon et al, 2009). The purpose of the Bill, reiterated in 2011, was 'to provide consumers with accurate labelling information about palm oil to enable them to make an informed choice' (ibid.).

While the objectives of these bills might at first appear cosmetic and relatively straightforward, product labelling at the time was an active policy area in Australia. This fact complicated these palm oil-specific proposals, as the House of Representatives Economics Committee noted in 2011, after reviewing the latter version of the bill. The flaws noted by the Committee included:

- that a systemic review into Australia's labelling laws (the Blewett Review) had already been undertaken (iv),
- the Committee's view that – because of various legal complications in Australian labelling laws – 'the Bill will not bring about the desired result' but would instead 'have a range of unintended consequences' (iii),
- the Committee's view that by 'singling out palm oil', the Bill is 'more discriminatory than necessary to fulfil a health or environmental objective', meaning that 'Australia would then be at risk of a trade dispute under WTO rules', especially given that
- 'Malaysia and Indonesia have already indicated that they are prepared to take this step' (Economics Committee, 2011:iv).

Some of these arguments will be visited in later chapters, including Chapter 6, which explores the need for downstream governments to justify to foreign audiences – and specifically producer countries – their responses to tropical deforestation. Incidentally, when the Labelling Review was released in 2011 (prior to the Economics Committee's report, above), it included a recommendation that sugars, fats and vegetable oils should be specifically named (Blewett et al., 2011). Interestingly, this recommendation was made to address health concerns about the inclusion of unspecified ingredients; in contrast, environmental concerns were categorised as a 'consumer value issue' which – the Review argued – 'is best left as a market response mechanism regulated by consumer protection laws' (ibid.:97).

Australia is not the only jurisdiction engaged in product labelling reform that affects the deforestation commodities. In 2011, the EU Parliament agreed to comprehensively update its labelling laws, with the new rules applying since late 2014 (EC, 2013d). While these reforms are driven by nutritional concerns and are systematic rather than focused on particular ingredients, commodities such as palm oil and soybean oil will be caught in the net and will therefore need to be specified as ingredients from 2014 onwards (EC, 2013e). (In Chapter 7, a participant in this study from a major retailer will remark that these reforms have been a motivation for companies to address the use of palm oil in their supply chains.)

CITES

Governments, uniquely amongst the actors canvassed in this thesis, can collaborate to create legally-binding international treaties, conventions and agreements. In 1975, concern over international trafficking (trade) in endangered species ultimately led to the establishment of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Yet while it has existed for almost four decades, CITES' relevance for this study was greatly enhanced during the last few years with a trend towards 'uplisting' (registering) hundreds of commercially valuable timber species – many of them tropical species – to the CITES Appendices, providing the organisation with a mandate over their trade. Ahead of the 2013 annual meeting of the organisation, John Scanlon, the Secretary-General of CITES, affirmed the significance of this trend:

> 'I think one of the most significant [agenda items] is the number of proposals that are coming from range states [countries of origin] to list high value timber species. A number of years ago, there was some resistance to incorporating a commercially valuable timber species under CITES. We've seen a significant transition there, where we now see range states seeing the benefit of CITES… We've gone from 10-20 timber species under the convention, to 350 now.
>
> 'So I think here we've seen the international community turn to CITES as a reliable and useful instrument in regulating international trade in commercially valuable timber… I found that significant' (Scanlon, in Neme, 2013).

The aim of CITES is 'to ensure that international trade in specimens of wild animals and plants does not threaten their survival', a task that 'requires international cooperation' (CITES, undated). Yet CITES has suffered – and in many cases, continues to suffer – from a persistent lack of the political will necessary to both conduct baseline research to inform listings, and then enforce those listings (Cooney et al., 2012; Phelps et al., 2010). Recent government commitments (eg.

Obama, 2014) to tackle illegal wildlife trafficking suggest that governments – including major 'destination' (consumer) countries, such as the US – are committed to rejuvenating CITES and also to enact other complementary responses.

Collaborations

This study's set of downstream responses to tropical deforestation is characterised by significant levels of experimentation (an argument made in full in Chapter 2). One telling aspect of this experimentation is the number of collaborative responses that have emerged across companies, and between companies and governments. An example is the *Consumer Goods Forum* (CGF), 'a global, parity-based industry network' consisting of over 400 retailers, manufacturers, service providers and other stakeholders with combined sales of €2.5 trillion and nearly 10 million employees (CGF, 2014a). Sustainability is one of the CGF's five 'strategic priorities', and in 2010 the CGF Board agreed to 'mobilise resources to achieve net zero deforestation by 2020' (CGF, 2014b). The CGF Board noted the sources of its motivation: 'the attribution of 20 percent of all greenhouse gas emissions to deforestation', and the fact that the cultivation of palm oil and soya, logging for paper and board and the rearing of cattle are 'generally acknowledged as the greatest drivers of this phenomenon' (CGF, 2014b). As should by now be clear, these motivations closely align with the understanding of the causes of contemporary tropical deforestation presented in the first half of this chapter, and drawn on – implicitly and explicitly – by many actors enacting responses.

In 2012 at the 'Rio+20' inter-governmental sustainability conference in Rio de Janiero, the US Government announced a 'joint initiative with the Consumer Goods Forum' (CGF, 2012). Although details were initially scant, the two entities would 'forge a private-public partnership to support a concerted international effort to reduce deforestation by promoting sustainable supply chains' (p1). This initiative later became known as the *Tropical Forest Alliance 2020* (TFA), with its mission statement noting its intention to 'tackle the drivers of tropical deforestation using a range of market, policy and communications approaches' (TFA, 2012:1). Since its formation, several other governments have joined the TFA, including the UK, Norway, Netherlands, as well as Liberia and Indonesia (TFA, 2014). More recently, many NGOs and research institutions (and even the FSC) have joined the TFA, signifying its evolution into a broad multi-actor collaboration that can 'serve as a marketplace of ideas and initiatives to tackle tropical deforestation' (ibid.).

Conclusion

This chapter has detailed the phenomenon of tropical deforestation, noting its magnitude, pace and regional variation. It has also explored reasons why continued deforestation – and indeed, its gentle acceleration – might be considered problematic. The chapter then canvassed this study's first building block: an understanding accepted by downstream actors that contemporary deforestation is primarily driven by commercial production of the four 'deforestation commodities'. The fraction of each of these commodities that is exported connects deforestation to the often distant consumption patterns of downstream actors. The implication of these four commodities in deforestation is well-evidenced, and they are especially prominent in the locations where recent deforestation has been most acute. Nevertheless, the role of these commodities in contemporary deforestation is only partial.

This study's second building block is a distinct set of responses from downstream actors to their connection to tropical deforestation. A chronological account of these responses emphasised two, roughly decade-long phases of downstream actors responses, with the first decade consisting primarily of the formation of the FSC and associated corporate sourcing policies for timber. A second phase began around 2004, where new responses-types emerged, attention expanded from timber to other relevant commodities, and collaborations became more common. These phases suggest that within the 'age of experimentation' that comprises the last two decades (noting that the FSC was a novel response at the time of its formation), there has been an intensification in experimentation over the most recent decade.

These responses – to the author's knowledge – have not previously been gathered together for collective examination. Yet in exploring the limitations on their potential contribution to slowing tropical deforestation, such a collective approach is necessary. The following chapters will proceed as follows. Chapter 2 will explain why, in light of other internationalised environmental problems, responses to tropical deforestation offer an unparalleled opportunity to interrogate how downstream actors approach the environmental problems of international trade. On the basis of this foundation, Chapter 2 will also present this study's research questions and methodology. Chapter 3 will synthesise relevant ideas from existing literatures to locate – and provide a basis for interrogating – these downstream responses.

Chapter 2 Research justification, questions and methods

Tropical deforestation is not the only environmental problem entangled with international trade, nor is it the only one that has elicited supply chain responses. This chapter will commence by canvassing the state knowledge as pertains to the environmental impacts of trade, placing tropical deforestation and its responses within their broader context. The chapter will then assert that tropical deforestation *is* a special case, and that its responses have unique characteristics that justify this study's scrutiny. This chapter will emphasise the bounded nature of deforestation's underlying environmental processes, the perception of its non-inevitability, and its confinement to trade in a limited number of commodities. The chapter then builds the argument that the range and number of responses for traded deforestation, as well as the genuine intent and momentum behind efforts to resolve the problem, offer an unparalleled case study for how contemporary environmental problems connected to international trade are being conceptualised and addressed.

After this argument has been advanced, this chapter develops the research questions that guide the remainder of this study. To recall from the Introduction, the primary research question is divided into two sub-questions – one conceptual and one empirical – to further refine the contributions made by the following chapters. These two sub-questions then provide the structure for the remainder of the study, as each is sequentially addressed. Following the introduction of these research questions, the chapter outlines the methods undertaken to answer them, before discussing several key terms that reappear throughout the text.

The environmental impacts of trade

Recent advances in computing capabilities, together with fine-grained trade data at the level of industries, commodities and even individual supply chains, have enabled quantification of international trade's significance for many contemporary environmental problems. The role of international trade in these problems is generally as a linking mechanism between the location of production or harvesting, which is where impacts are overwhelmingly incurred, and the locations where the resulting commodities are consumed.

As a prime example of these new research possibilities, Lenzen et al. (2012) directed a mammoth computing task covering more than 5 billion supply chains to detect links between trade in given commodities and the International Union for the Conservation of Nature's (IUCN) 'Red List of Threatened Species', which determines at-risk species and also canvasses the

particular threats they face (see IUCN, 2014). Thus both direct threats, such as species harvesting, and indirect threats, such as habitat loss and ecosystem pollution, are included within the study's remit. Lenzen et al. (2012) ultimately conclude that '30 per cent of global species threats are due to international trade' (p109). These authors also produce a finding that is echoed in many of the other studies this section will present, with respect to a range of environmental problems; specifically, that 'in many developed countries, the consumption of imported... items causes a biodiversity footprint that is larger abroad than it is at home' (p109). This finding suggests the potential for international trade to act as a 'translocation' mechanism for environmental problems deriving from consumption.

Greenhouse gas emissions are another environmental problem in which international trade plays a significant role. Peters et al. (2011) found that over the time period 1990 to 2008 'emissions from the production of [internationally-] traded goods and services have increased from 4.3 to 7.8 gigatonnes of carbon dioxide' (p8903). Furthermore, while in 1990 this figure represented 20 percent of global emissions, in 2008 – against much larger total emissions – this percentage had increased to 26 percent of global emissions (ibid.). These figures demonstrate that internationally-traded goods now account for more than a quarter of global greenhouse gas emissions and that this percentage has been increasing (ibid.). These authors also note that 'most developed countries have increased their consumption-based emissions faster than their territorial emissions' (p8903), which provides evidence for the argument that international trade may be driving or exacerbating greenhouse gas emissions, rather than simply being 'connected to' them.

The subject of Peters et al.'s (2011) study was the *embodied* emissions of internationally-traded goods and services (meaning the emissions incurred in order to produce them). Another study identified a crucial missing component of trade-related emissions: namely, the emissions required to actually transport goods from one country to another. In this study, Cristea et al., (2013) find that 'international transport is responsible for 33 percent of worldwide trade-related emissions' (p153), meaning that another half of the emissions involved in *producing* goods for international trade is again required to *transport* them. In determining transportation's 'surprisingly high share' of trade-related emissions (p170), the study not only affirms their significance but also identifies another pathway through which international trade is implicated in environmental problems. In its amplification of the 'transport of invasive species', Bennett and Balvanera (2007) note another example of an environmental 'externality' enabled by international trade's intensified global connections.

International trade, generally of agricultural commodities, is also responsible for the transfer of large volumes of embodied water, which can theoretically create or exacerbate water scarcity in certain locations. Conceivably too, trade could *ameliorate* water scarcity in some locations, remedying global inequalities in water availability by enabling water-intensive commodities to be imported rather than domestically produced. In investigating this possibility quantitatively, Suweis et al. (2011, in Seekell et al., 2011:5) find that '4 percent of international trade connections account of 80 percent of virtual water transfers'. However, Seekell et al. (2011) find that the volumes of water embodied in international trade are both too small and not travelling in the right direction to accomplish this redistribution. Subsequently, Lenzen et al. (2013) find both that 'the volume of [embodied] water trade [has] more than doubled over the past two decades' (p78) and that '32 percent of global *scarce* water consumption' is linked to international trade (p81). These authors conclude that 'developed countries increasingly import water embodied in goods from the rest of the world to alleviate pressure on domestic water resources' (p78). In effect, these authors show that developed countries use international trade to enable increased consumption of water-intensive products by exacerbating the scarcity of water elsewhere.

Another study, by Wiedmann et al. (2013), uses the metric of a national 'material footprint' as a determinant of a country's impacts. This footprint is a measure of the total volumes of materials needed for a country's consumption and – crucially – also includes the *embodied* materials required to produce and transport goods but which are not consumed themselves. These authors find that international trade is heavily involved in facilitating the translocation of countries' material needs, with 'the real dependence on non-domestic resources far exceed[ing] the actual physical quantity of traded goods' (p2). They continue, stating that 'two-fifths of all global raw materials is extracted and used just to enable exports of goods and services to other countries. This is [about three times] more than the 10 Gt of direct physical trade of materials and products' (p2). These authors conclude that 'countries depend increasingly on international trade for acquiring their natural resource base' (p2).

Land is another metric used to measure the pressures that countries place beyond their borders, with international trade enabling such transfers. Yu et al. (2013) seek to determine the amount of land that countries require in order to underpin the magnitude and composition of their consumption. These authors find that 'the US, EU and Japan have the largest share of foreign land in their total land use' (p1180), with the US 'displacing' abroad 33 percent, the EU countries more than 50 percent and Japan 92 percent of the land use requirements of their consumption. With specific regard to forested land, Yu et al. (2013) find that '27–67 percent of forestland in South-East Asia, China, Russia, Africa and Brazil is displaced for consumption in

rich countries, in particular the US and EU... although similar pressures are exerted from fast growing emerging economies' (p1185). China, for example, displaces 5 million hectares (50 000 sq km) of cropland in Brazil, mainly for its imports of soybean (ibid.). Finally, and still using land use as a metric (like Yu et al.; 2013), Weinzettel et al. (2013) explore the extent to which affluence is significant in determining whether countries displace environmental impacts. These authors conclude that, 'in 2004, high-income countries required more biologically productive land per capita than low-income countries, but this connection could only be identified when land used to produce internationally traded products was taken into account, because higher-income countries tend to displace a larger fraction of land use' (p433).

Table 2.1 Headline conclusions of research quantifying the international trade's connections to resource use and environmental problems.

Authors	Metric/Problem	Headline conclusion
Lenzen et al. (2012)	Endangered species	'30 percent of global species threats are due to international trade' (p109)
Peters et al. (2011)	GHGs (embodied)	In 2008, 26 percent of global emissions derived from the production of internationally-traded goods and services (p8903)
Christea et al. (2013)	GHGs (transport)	'International transport [of traded goods] is responsible for 33 percent of worldwide trade-related emissions' (p153)
Suweis et al. (2011)	Water	'4 percent of international trade connections account for 80 percent of virtual [embodied] water transfers' (in Seekell et al., 2013)
Lenzen et al. (2013)	Scarce water	'32 percent of global scarce water consumption' is embodied within internationally-traded goods (p81)
Wiedmann et al. (2013)	Material footprint	'two-fifths of all global raw materials is extracted and used just to enable exports of goods and services to other countries' (p2)
Yu et al. (2013)	Land	'the US (33pc), EU (>50pc) and Japan (92pc) have the largest share of foreign land in their total land use' (p1180)
		'27–67 percent of forestland in South-East Asia, China, Russia, Africa and Brazil is displaced for consumption in rich countries, in particular the US and EU... although similar pressures are exerted from fast growing emerging economies' (p1184)
Weinzettel et al. (2013)	Land	'higher income countries tend to displace a larger fraction of land use' (p433)

Table 2.1 contains the headline findings of these studies, which form an emerging body of quantitative literature. Collectively, these studies demonstrate robustly that international trade connects countries to environmental problems beyond their borders, and further, that the

magnitude of these connections are significant. For two of these cases – the emissions from transportation, and conduction of invasive species – trade can be unequivocally identified as a *cause* of problems. Additionally, for Lenzen et al.'s (2013) study of scarce water, trade is found to be responsible for 32 percent of global scarce water consumption; in other words, by enabling the transfer of embodied water out of situations of water scarcity, trade *exacerbates* that problem.

For the remainder of these studies, it becomes necessary to find appropriate counter-factual to the present scenario, since it remains theoretically possible that trade could actually be *ameliorating* these environmental problems *vis-á-vis* a no-trade scenario. This exercise occurs within a loaded political dynamic. As Chapter 6 will elaborate upon, support for the further liberalisation and promotion of international trade is an article of faith among governments globally. These objectives are also institutionalised by the World Trade Organisation at the international level and by trade agencies and representatives at a national one.

Several studies, including one from those presented above, have sought to better understand the likely consequences of a more liberalised trading system for environmental problems. For example, Cristea et al., (2013) find that in 2004, 31 percent of international trade by value resulted in a net reduction of emissions, while the remaining 69 percent does not. Using a general equilibrium model, these authors also find that under a trade liberalisation scenario, the tariff regimes that currently 'favour proximate and land-adjacent partners, who use rail and road transport to move goods short distances' would instead shift trade 'toward distant partners, [resulting in] a more intensive use of air cargo and transport emissions growth that is more rapid than trade growth' (p170). This evidence provides direct refutation of the hope that trade might ameliorate greenhouse gas emissions.

An additional study by Schmitz et al. (2012) cites research that shows 'trade liberalisation leads only to small land-use shifts in Europe but dramatic shifts in developing regions' (p190). As for their own study, which explores the effects of trading more food across international distances, Schmitz et al. (2012) conclude that, 'bringing environmental and economic aspects together, our result is that economic benefits [of trade liberalisation] are generated at the costs of the environment' (p199). Finally, Richards et al. (2012) conduct a study with specific relevance to tropical deforestation, highlighting the inter-dependent relationships between the production of soybean in the Amazon and macro-economic variables such as exchange rates. These authors show that vast additional areas of soybean production – comprising 29 percent of the total harvest area, or 63 000 sq km, in 2009 – were stimulated by the devaluing of the Brazilian currency, the *real*, against the US dollar. These authors note that 'as trade barriers and

transportation costs decline... the impact of exchange rates on the location and distribution of [agricultural] production will only increase' (p461).

Drawing on an emerging body of literature, this synopsis has conclusively demonstrated that international trade plays a significant role in multiple major environmental problems. While several of these problems – biodiversity loss and land requirements, for example – are directly relevant to tropical deforestation, Chapter 1 has already shown that deforestation is *itself* one such problem, with international trade linking the production and distant consumption of the four deforestation commodities. Two questions remain, the first of which is whether trade exacerbates or ameliorates environmental problems. Answers to this question could potentially differ for each problem. One study that specifically sought an answer to this question was conducted by Christea et al. (2013), who used a general equilibrium model to conclude that only 31 percent of trade in 2004 resulted in a net reduction of emissions, meaning that over two-thirds of trade did not. Other studies answer this question implicitly; for example, Yu et al.'s (2013) finding that Japan displaces more land for its consumption that it possesses; and Lenzen et al.'s (2013) finding that 32 percent of scarce water is extracted in order to be traded, exacerbating that problem. Yet regardless of whether counter-factuals have been examined, one clear pattern emerges from these studies: namely that countries are not just implicated in environmental problems beyond their borders, but they also depend on those 'translocated environmental pressures' to underwrite the current magnitude and composition of their material consumption, land and resource use. Further, as a number of these studies note, it is the affluent, developed countries that are disproportionately implicated.

This leads to the second question, which is whether the causation or exacerbation of these problems by international trade is *nevertheless justified* by the benefits – economic, employment etc. – that it enables. Given the rarity with which the environmental 'trade-offs' of the trade liberalisation agenda – or even of current levels of trade – are acknowledged, that agenda has so far avoided such an honest appraisal of its merits. A measure of the success of the above studies, then, as well as the openness of debate around international trade and its proposed liberalisation, therefore lies in the extent to which this question is acknowledged and answered by trade's proponents.

For the environmental problem this study is concerned with – tropical deforestation – the emergence of a set of responses from downstream actors provides a strong indication that trade in the deforestation commodities *cannot* be justified at the continuing expense of tropical forests. This argument, which will be made explicit in Chapter 4's discussion of actors' motivations for responses, therefore precipitates a further question: 'What can be done when

international trade's connections become problematic?'. The set of responses introduced in Chapter 1 are, in essence, attempted answers to this question, since they reflect an acceptance both that international trade connects downstream actors to tropical deforestation, and also that actors have judged this particular environmental trade-off to be unwarranted, or unjustifiable. As such, these responses provide a prominent case – or as the following section will argue, *the* prominent case – for examining how actors address problematic connections forged through international trade to distant environmental problems. The following section locates this quest for responses to international trade's deforestation connections within the environmental governance literature.

Why traded deforestation, and responses for it?

In Chapter 1, the connection between tropical deforestation and international trade was given the explicit name of 'traded deforestation'. The previous section positioned traded deforestation as just one of many environmental problems that are entangled with international trade (where 'trade' can refer either to a component of overall economic activity or to specific sets of supply chains). In singling out traded deforestation as especially worthy of further examination, then, this study will now build an argument for why this problem – and responses that have emerged to it – warrants this attention more so than any other possible candidates.

These other candidates provide a useful starting point. As the above section canvassed, quantitative research has connected international trade to multiple environmental problems, including greenhouse gas emissions, scarce water use, land use, threats to endangered species and material footprints. Tellingly, few of these problems – with one major exception in CITES, for threats to endangered species – have elicited policy, regulatory or institutional governance responses focused on supply chains, although 'precursor' tools based on measurement and information – such as footprinting, for example – are becoming more prevalent (O'Rourke, 2014). There are multiple reasons for the absence of supply-chain responses to other problems, beginning with the difficulty of adequately defining boundaries for these problems. What, for example, is an acceptable level of greenhouse emissions, water use, land use or material footprint for a given level of traded production? In comparison, tropical deforestation has the distinct advantage of being a conceptually bounded problem conducive to an unambiguous position. Companies and governments in the West know precisely how much tropical deforestation they wish to be associated with or implicated in: none. The gravitation of actors towards this position is evidenced by the current debate over the parameters of 'no net deforestation' (Brown and Zarin, 2013; The Forests Dialogue, 2014). In contrast, *some* net

positive quantity of water and area of land is required to grow any agricultural commodity, just as transporting those commodities internationally necessarily incurs *some* volume of greenhouse gas emissions. There are no equivalently unambiguous positions that actors can seek for these problems, since all agriculture requires these inputs and all transportation necessitates this output.

Unlike these other environmental problems, then, tropical deforestation cannot be cast as 'inevitable' for ongoing agricultural production and subsequent trade, even for those commodities currently implicated in driving that deforestation. In my view, this perception of contingency has been an absolutely critical factor behind the public and genuine acceptance of the connection of international trade in certain commodities to deforestation. No doubt this acceptance is aided by the small number of commodities directly implicated, which provides a tractable focus on certain supply chains. So then, these three features of traded deforestation – the perception that it is (a) a bounded problem conducive to an unambiguous position, (b) connected to a limited number of commodities, and (c) is not regarded as inevitable – have provided fertile soil for the subsequent emergence of responses to traded deforestation. These characteristics define the uniqueness of traded deforestation as a problem, and in turn provide a basis for understanding the emergence of responses of a range and number that are not matched by those for other, comparable international environmental problems.

However, because the subject matter of this study is not the problem of traded deforestation but instead the array of policy, regulatory and institutional responses to that problem, further analysis is also warranted to ascertain the uniqueness of these responses. For although the above examples of environmental problems (greenhouse gas emissions, land use, material footprint, etc.) have not yet generated any strong examples of governance responses, there are other problems that have generated such responses. And similarly to those for traded deforestation, many of these responses have also focused on international supply chains. For instance, CITES is a clear and longstanding supply chain-based response to the problem of international trade in endangered flora and fauna, while the Basel Convention provides another example where many governments have agreed on a collective response for 'transboundary movements' (international trade) in hazardous wastes.

Temporarily casting a gaze beyond predominantly 'environmental' problems, other examples of supply chain-based responses to problematic trades also swim into focus. Multiple responses have recently sought to address perceived problems with trade in minerals and metals, the so-called 'hard' commodities. These commodities attracted negative attention in the early 2000s as concern emerged over the role of conflict diamonds in perpetuating and exacerbating

Liberia's civil war. At that time, the UN Security Council banned the purchase of diamonds exported from that country (UNSC, 2001). The Security Council later banned purchases of Liberian timber exports after it emerged that revenues from those exports had been compensating for the loss of revenues from diamond exports (UNSC, 2003). In the Security Council's latter decision, it also encouraged the Liberian Government to join the Kimberley Process, the only functioning example of an international government-sponsored certification scheme, which was endorsed by both the United Nations General Assembly and Security Council prior to its launch in 2003 (Global Witness, 2011a).

More recently still, 'conflict minerals' also entered the lexicon, referring to the mining of tin, tungsten, tantalum and gold (and occasionally other metals) in the eastern Democratic Republic of Congo. These metals are required in small amounts for all electronic devices, including computers and mobile phones. Both the US and EU have recently initiated responses to international trade in conflict minerals: the US setting out due diligence requirements for importers in the Dodd-Frank Act (USSEC, 2010), while – at the time of writing – the EU has proposed a voluntary 'self-certification' approach to due diligence (EC, 2014a). The voluntary nature of the EU's position jars with both its and the US' mandatory, regulatory-based response to illegal logging, which form a part of this study. (Chapter 4 will suggest a confluence between hard commodities and deforestation in light of an apparent shift in the drivers of deforestation towards mining, including for coal, gold and other minerals and metals. Consequently, US and EU regulatory responses to traded deforestation may soon need to elevate the importance of these and other 'hard commodities' for already-agreed policy objectives on deforestation.)

These examples demonstrate that, both in concert and individually, governments have responded – and are currently responding – to problems associated with international trade of commodities beyond traded deforestation. In this sense, government responses to traded deforestation (scrutinised more fully in Chapter 6) may be better conceived as part of a piqued interest – and crucially, renewed willingness – to experiment with responses to this *type* of policy problem. As Chapter 6 will also bear out, however, significant barriers remain on both the scope and nature of actions that governments are currently willing to countenance.

The private sector has also responded to perceived problems within international supply chains. The major clothing and footwear multinationals, a category that includes Nike, Reebok, Adidas, Puma and many other well-known brands, have launched initiatives to address both alleged and proven cases of social harm perpetrated through the contracts they outsource for the manufacture of their products. For the private sector too, then, responding to traded deforestation is less a 'new thing under the sun' and more an extension of an extant approach

(even if many individual companies may be responding to their supply chains for the first time). The role of NGOs in exposing the connection between individual companies and unfavourable outcomes is a further similarity between corporate sourcing policies for clothing and footwear, on the one hand, and to traded deforestation commodities on the other.

Given that responses have clearly emerged for other problems, then, what makes responses to traded deforestation especially worthy of further attention? The short answer is as follows: the set of responses to traded deforestation exhibit vastly greater range, number, novelty and – at the time of writing – momentum than any other environmental or social problem currently connected to international trade. In Cashore and Stone's (2012) words, these responses 'present students of public policy, regulations, international relations, and corporate social responsibility with one of the most innovative "policy baskets" available to practitioners of resource and environmental management' (p21). As a consequence, they provide an unparalleled case study in understanding the potential and limitations of current attempts to govern these problems. Each of these characteristics will now be expanded upon.

The range of responses was made apparent in Table 1.1, which listed eight different response-*types*, encompassing actors from across downstream societies. Beginning with the private sector and civil society, it is almost impossible not to concede that NGO advocacy and activism efforts – mostly targeted at individual companies – have been tremendously successful in stimulating corporate responses to traded deforestation. Companies have also united within major peer-group organisations such as the Consumer Goods Forum, which in 2010 elected traded deforestation as one of two environmental priority areas, and the CGF has in turn partnered with consumer country governments to form the Tropical Forest Alliance. Also within the private sector, trade and industry associations such as the Dutch and Belgian palm oil industries have forged policies for the palm oil that they import. NGOs with environmental and social foci have also devoted considerable attention to the problem of traded deforestation.

While Chapter 1 noted that governments have been slower than companies to deploy responses to traded deforestation, they have still responded across their multiple roles to that problem. The earliest and by far most widespread response has been to design public procurement policies for timber. A handful of governments (the US, EU and Australia) have also designed regulatory responses to traded deforestation, focused on illegal timber. Some governments have also begun, perhaps tentatively, to design responses for other commodities relevant to traded deforestation, beginning with palm oil, which the EU's amended biofuels framework (from 2009) covers, and for which a UK procurement policy emerged in 2012. Taken together with corporate (policy) and civil society (generally institutional) responses, these public, regulatory responses

reveal the extent to which actors have engaged with the particular problem of traded deforestation, generating an unparalleled range of responses in the process.

Coupled with their range, the number of responses to traded deforestation comfortably eclipses in number those that map onto any other single trade-related environmental problem. Indeed, even considering sustainability schemes for one of the deforestation commodities – timber – alone, their proliferation has begun to cause confusion and – as Chapter 5 will detail – some deleterious outcomes from competition. The plethora of company sourcing policies that have emerged for commodities such as palm oil (see Climate and Land Use Alliance, 2014) and public procurement policies for timber (see Brack, 2014) further bolster the overall number of responses.

Taken together, then, the number and range of these responses suggest a prominence for the problem of traded deforestation that supersedes that of any other international environmental problem over the last decade (noting that concern over climate change has frequently been channelled into tropical deforestation). Another characteristic worthy of mention is the novelty of many response-types, which in many cases (Roundtables, Tropical Forest Alliance, FLEGT, public procurement) have been innovated specifically for the deforestation commodities and in others (CITES, illegal logging, biofuels frameworks) have been significantly extended to enable their application to those commodities. Recall that this innovation, by all actors, in response to the problem of traded deforestation is one half of the explanation for this study's claim that the last two decades have been an 'age of experimentation'. The other half of that explanation, as noted, is the uncertainty that lingers over what these responses can and cannot be expected to contribute to their objective of slowing tropical deforestation.

There is one final characteristic – momentum – that is necessary to adequately summarise (especially) the last decade of responses to traded deforestation. At the time of writing, the UN Climate Summit, held in New York in September 2014, has only recently produced the 'New York Declaration on Forests' which reports that 'for the first time, world leaders endorse a global timeline to cut loss of natural forest in half by 2020, and strive to end it by 2030' (New York Climate Summit, 2014). The document notes that 'the Declaration comes at a critical time for forests – in the midst of a radical transformation of commodity sectors' (ibid.), a clear reference to the expected effects of the focus of this study's responses on the deforestation commodities. Multiple other major conferences, whether targeting private or public sector actors, show how pertinent are concerns over traded deforestation (eg. Innovation Forum, 2015; Forests Asia Summit, 2014; The Forests Dialogue, 2014).

A contributing factor to this momentum, I would suggest, is the authenticity – or genuineness – of actors' ambitions to *in some way* address their connection to tropical deforestation. While multiple motivations support many of this study's responses to traded deforestation, I believe that intrinsic to all responses is an intention to honestly address *some form* of the underlying problem. (Chapters 3 and 4 will further explore the way that traded deforestation is conceptualised within the forms taken by responses.) This perception of genuineness does not preclude a basis for scepticism about some actors' motivations for addressing traded deforestation, including for example that some consumer countries are attracted to argue for the further protection of tropical forests to distract from the need to tackle significant *domestic* sources of greenhouse gas emissions and associated industries (eg. Lang, 2014; Amazon Watch et al., 2013). And as Chapter 4 will detail, the motivations for other responses, such as the US and EU's illegal logging legislation, go well beyond an abiding interest in the world's tropical forests. Similarly, there is no denying that some companies are motivated to respond primarily by the threat of NGO campaigns against them. Yet as Chapter 4 also discusses, responses' political attractiveness and the perceived susceptibility of actors to NGO campaigns can bolster the support that responses receive.

Yet even in acknowledging that not all actors are acting from the lofty motive of wanting an end to tropical deforestation, what cannot be denied is that the emergence of most responses are premised on a recognition that traded deforestation is a real problem requiring redress. How else could the sentiments of Gavin Neath, the Senior Vice President of Sustainability at Unilever, be explained, given his view that "Greenpeace was right to attack us" (in Mongabay, 2013d)? Similarly, as Chapter 6 will demonstrate, downstream governments have been required to navigate occasionally fierce protestation by actors – including governments – within producer countries, in order to enact response-types such as illegal logging legislation and biofuels frameworks. That these responses should have been enacted despite this protestation, which sometimes crosses over the border into outright threats, suggests a firm resolve to respond to the underlying problem.

To conclude, then, traded deforestation has generated a greater number and range of responses – including many novel ones – than any other comparable problem. It is also underpinned by an (at times) surging momentum and a genuine intention on the part of many actors to resolve it. These features render the set of responses to traded deforestation an unparalleled opportunity to examine and better understand the nature and behaviour of supply chain-focused attempts to resolve environmental problems, potentially holding broader lessons for responses to other problems associated with international trade.

Finally, it is worth noting that the 'current-ness' of responses to traded deforestation has posed some challenges during the research period, as relevant announcements and strategies have required either rapid incorporation into existing themes or in some cases reorientation of those themes to accommodate the latest evidence. Yet this same current-ness has also provided considerable inspiration throughout that same research period, with the hope that this study's findings might contribute to an active area of both study and practice, illuminating the conceptual nature and empirical behaviour of responses to traded deforestation, and in doing so satisfy a palpable deficit in our collective understanding of what these responses might, and conversely might not, be capable of achieving.

Introducing this study's research questions

The preceding section identified the characteristics of responses to traded deforestation that make them a peerless case study for examining how downstream actors have sought to address the environmental impacts of international trade. It is important to recognise how this statement quickly leads to perhaps 'the ultimate' question that can and should be asked of these responses: simply, 'do they work?'. The discussion below will explain what attempts have been made within the literature to answer this question, as well as why this current study does not itself pursue that question directly.

Each of the many types of response that have emerged for traded deforestation has attracted research and policy attention individually. Some responses, such as the FSC, have inspired a deluge of research, at least in part due to its novelty as an instrument or mechanism. It took more than a decade from the FSC's inception, however, before comprehensive conclusions on that response's 'effectiveness' began to be reached and the question of whether it 'works' was approached (Cashore et al., 2004; Auld et al., 2008; Moog et al., 2012). Once the turn towards 'macro-effectiveness' began, both individual responses (Auld et al., 2008; see Gulbrandsen, 2009, for a related take on the MSC) and response-types, such as sustainability schemes, have been scrutinised (Steering Committee, 2012; Dauvergne and Lister, 2012; Mayer and Gereffi, 2010).

The innovative form of the NGO-industry Roundtables – of which FSC was developed first, followed by the RSPO, RTRS and the RSB – has meant they have attracted the most attention from researchers, with bodies of research exploring their 'emergence and proliferation', 'legitimacy and accountability', and 'effectiveness and broader consequences', among other aspects (Newell et al., 2012:374). Yet even within the sustainability scheme 'response-type', examples are usually analysed individually (see Shouten et al., 2012, and McCarthy, 2012, for

exceptions). Other research has organised itself according to whether responses are market-based or information-based (eg. Biermann and Pattberg, 2008).

Revealingly, a recent wide-ranging assessment of sustainability schemes (Steering Committee, 2012) also contained some exploratory analysis on the *pathways* through which sustainability schemes influence the underlying processes of production. In other words, this assessment identified that in order to answer the question of whether schemes 'work' it is also (if not first) necessary to understand *how* they might work in generating their effects. This task of mapping out influence pathways for schemes has also been approached by Cashore and Stone (2012), with respect to interactions between legality and sustainability-based schemes, and in a broader sense (i.e. beyond schemes) by Bernstein and Cashore (2012), who develop a framework to 'facilitate the shift from [a study of responses'] 'effectiveness' to 'influence'' (p587). The very need for this shift to occur confirms the point here that our understanding of *how* schemes work remains too incomplete to be able to fully address the overarching question of *whether* they can be said to work. Further, what applies to sustainability schemes, which are by far the most scrutinised response-type within this study's remit, applies equally – if not more so – to the other response-types.

Almost all of this research has tended to group responses on the basis of their form (with voluntary, multi-actor responses such as Roundtables predominating), rather than according to their objective. Given that multiple actors have identified traded deforestation as an environmental problem warranting a series of responses, however, it makes intuitive sense for research to align itself with the *collective* ambitions of these responses. Such an alignment merely applies one of the tenets of governance theory – aligning institutions to the problems they address – to the research that examines those problems. It may also contribute to Biermann et al.'s (2010) call for 'innovative research… to analyse political options to govern sustainable development' (p203), namely by examining a set of extant options with shared characteristics. The alignment between problem and research scope that this study attempts has an added benefit in allowing the question of 'how responses work' to be extended to include the question of how they might work *together*. This remains another potentially crucial shortcoming in current understandings of responses, as Bernstein and Cashore (2012) note:

> '…simple comparisons of governance mechanisms are of limited value. Rather, it is often the interaction of mechanisms and processes, sometimes along multiple pathways, that create collective influence' (p603).

This study acknowledges, then, that despite the desirability of answering the overarching question – 'do they work?' – for responses to traded deforestation, this question is unable to be

approached directly. Other authors emphatically concur with this point, concluding that 'it is too early to critically assess whether these [responses] are better equipped to tackle the problems of the twenty-first century, despite much emerging scholarship on this issue' (Newell et al., 2012:369); that 'the evidence base for assessing the impacts of these interventions... in tropical forest landscapes remains limited' (Newton et al., 2013:1762); and that 'given the paucity of empirical evidence on the effectiveness of single instruments and their partial effect within policy mixes, it is premature to propose optimal combinations of instruments' (Lambin et al., 2014:137).

Clearly, then, better understandings of how responses work – their mechanisms or pathways of influence – are needed before their potential contribution to slowing deforestation can be delineated. Through its exploration this study is able to contribute to several important aspects of this question, including the aforementioned deficit of understanding in how this set of responses might work together. Further support for this collective approach can be found from Newton et al. (2013), who conclude that:

> 'Studying the collective experience of multiple interventions across commodities and spatial contexts is necessary to generate more systematic understandings of the impacts of commodity supply chain interventions in forest-agriculture landscapes... and also of the conditions under which different interventions lead to trade-offs and synergies between goals' (p1768).

Newton et al.'s noting of the possibility of trade-offs between responses will prove particularly salient in the empirical chapters of this study. Bernstein and Cashore (2012) also refer to this possibility in noting that responses' 'multiple channels of influence may be synergistic, or they may overlap, perhaps with contradictory authorities and mandates' (p589).

Summarising, then, there is strong and recent recognition and support within environmental governance literatures for this study's approach, on three counts: that responses should be examined collectively, that the focus of that examination should shift away from responses' 'effectiveness' and towards their 'influence', and that for reasons including a 'limited evidence base' it is too soon to conclusively determine whether responses work.

Before turning to this study's research questions, it is worth briefly delineating several further reasons why efforts to directly answer the overarching question of whether responses work are likely to be misguided. Firstly, there are problems of delayed and incomplete observation, where outcomes for either tropical forests or the processes of deforestation are difficult to detect. Secondly, even when changes are detected, there are considerable problems attributing

those changes to any particular source, whether singular or multiple. This is because the decisions made by governments, companies and individuals with the ability to directly affect processes of deforestation can be inscrutable, and it is difficult to determine the veracity and completeness of any explanations that may be offered. Thirdly, even in rare cases where a given response appears to have generated an intended effect, uncertainty remains over what *un*intended effects might also have been generated. As the following chapter's discussion of displacement will bear out, the global interconnectedness of diverse pockets of economic activity makes it extremely difficult to understand the full consequences of any single policy or action, let alone multiple that might be at work on the same subject simultaneously.

Further, there is also a temporal source of ignorance, stemming from the (in some cases, very) novel nature of many of these responses. Many responses were developed only in the late 2000s or early 2010s; for instance, the EU illegal logging legislation was implemented in early 2013. This recentness makes it difficult even to detect the changes that might be occurring in tropical forests over such a short time period, a problem then compounded by the aforementioned difficulties of attribution, and so on. And finally, there is the absence of a counter-factual. It might be tempting for some to conclude that these responses have been wholly ineffective, since the rate of aggregate tropical deforestation has been slowly climbing over the two decades in which they have existed. Yet how this trend would have differed in the absence of these responses – the appropriate counter-factual – is not just unknown, but unknowable.

All in all, then, it is both too early and too empirically-fraught to directly approach the question of whether this set of responses works. This study's approach aims to keep this ultimate question in mind, however, rather than channelling itself off in pursuit of more manageable targets. It achieves this mainly by focusing not on responses' potential to contribute, but on *the limitations* of that contribution. Of course, responses' potential and limitations are intimately linked, yet in avoiding attribution and other difficulties the latter provides a more robust target for scrutiny. As referred to above, this study also adheres to – and seeks to advance – the recent conclusions within governance literatures that responses can valuably be examined both collectively and – especially relevant for Chapter 7 – in pursuit of their capacity to 'influence', rather than their as-yet undetermined 'effectiveness'.

Bearing these foundations in mind, this study's primary research question can therefore be presented as follows:

> **Primary research question:** *What will limit – or otherwise determine – the contribution of the current set of responses from downstream actors to slowing tropical deforestation?*

The importance of this question – and its relevance to researchers, practitioners and policymakers alike – remains effectively unchanged since the formation of the FSC in the early 1990s, despite an increasingly populated governance landscape, and continuing tropical (and traded) deforestation. In order to delineate approaches to the primary research question above, the question can be broken down into two dimensions (one conceptual and one empirical). Taken respectively, this yields the following two sub-questions:

> **Sub-question 1a:** *What does the conceptual nature of responses (ie. their design) suggest about any limitations on their potential contribution?*

and,

> **Sub-question 1b:** *What does the empirical behaviour of responses suggest about any limitations on their potential contribution?*

These two sub-questions home in on two broadly-distinguished sources of limitations that might determine the contribution that responses can make to slowing deforestation. They also provide the structure for the remainder of the study, as shown in Table 2.1, which details both the chapters that address each question as well as the prevailing themes of those questions.

Table 2.2 Chapters contributing to research sub-questions, including major themes.

Research sub-question	Contributing chapters	Themes
1-a. Conceptual limitations	(3,) 4, 7	Framing (3,4), coverage (4), influence beyond coverage (7), interactions (4)
1-b. Empirical limitations	5, 6, 7	Consequences of competition (5), perceived constraints (6), influence beyond coverage (7)

This study's answers to these questions will address several deficits that have already been referred to explicitly, but will be collated here. The primary importance of answering these questions is to continue building towards a deeper, more sophisticated understanding of what current supply-chain focused responses from downstream actors are capable of achieving with respect to slowing tropical deforestation. Through its exploration of the nature and behaviour of 'one of the most innovative "policy baskets" available' (Cashore and Stone, 2012:21), the study will provide contributions to Newell et al.'s (2012) question of whether and how 'equipped' these responses are 'to tackle the problems of the twenty-first century' (p369). Crucially, the study's collective approach to responses will enable it to contribution in a broad sense to the need Newton et al. (2013) identify 'to generate more systematic understandings of the impacts

of commodity supply chain interventions in forest-agriculture landscapes' (1768). This contribution is also called for by Bernstein and Cashore (2012), who note that further research 'could help reveal... the contradictions and synergies of complex institutional arrangements through which policy change occurs' (p603), and Challies et al. (2014), who identify a 'need for detailed empirical analyses of specific governance arrangements under contemporary globalisation' (p33).

Of course, responses to deforestation form (and symbolise) part of a much larger project, which has been alluded to as 'the grand challenge...[of] governance for sustainability' (Challies et al., 2014:32). In its examination of these responses, this study therefore forms part of the trend noted by Bulkeley and Jordan (2012) towards 'an active reengagement with the transnational as a distinct and researchable sphere of politics' (p556), as well as contributing to Biermann et al.'s (2010) call for research to 'analyse political options to govern sustainable development' (p203). Together with climate change, with which it has nonetheless been robustly connected, traded deforestation has elicited the most prominent and advanced response from Western societies to Challies et al.'s 'grand challenge' as arguably any other contemporary, transnational environmental problem.

Methods

Chapters 3-7, which follow the current chapter, sequentially approach the research sub-questions introduced above. Chapter 3 synthesises relevant literatures, enabling Chapter 4 to first explore the conceptual sub-question, examining how aspects of responses' nature, such as their coverage, limit their potential contribution to slowing tropical deforestation. Capitalising on the fact that responses are gathered together, Chapter 4 also scrutinises them collectively. This examination consists of two parts: firstly, comparing and contrasting notable features of responses within the set, and secondly, exploring the nature of formal, on-paper interactions between responses.

The empirical material of the present study – applied to the empirical research sub-question above – emerges fully across Chapter 5, 6 and 7. These chapters draw on interviews and other material collected explicitly for this study, the process of which is outlined in some detail below. These chapters also pick up and elaborate on the theme, discovered in Chapter 4, of the importance of interactions between responses.

Chapter 5 Survey

Chapter 5 examines the sourcing policies that have emerged from within the private sector for the deforestation commodities. The chapter begins by conducting an indicative sample of the variety of different relationships that sourcing policies establish with sustainability schemes. To my knowledge, these relationships – what Chapter 5 calls 'recognition strategies' – have never before provided a discrete subject of academic focus. Five recognition strategies are identified in total from a survey of grey literature (media releases, public statements by company representatives and official company policy documents). The survey is indicative; it aims to delineate and identify the *variety* of strategies currently in use by companies. These strategies are then formalised in a typology. The survey is not comprehensive across any given sector or commodity, and no quantitative results (such as 'most common strategy') are presented. The second half of Chapter 5 is derived from discussions with participants which took the variety and consequences of these strategies as their starting point.

There is a bias in the type of companies that were captured in this survey, as the need for relevant information to be publicly-available skews the survey towards major, branded companies that are eager to communicate with their customers and other stakeholders (including critical NGOs). This bias is not deemed problematic, on the basis that it mirrors the underlying bias in the type of companies (major, branded multinationals) that have both been disproportionately targeted by NGOs and have enacted such sourcing policies in the first place.

Interviews

For the second half of Chapter 5, as well as Chapters 6 and 7 in their entirety, the material presented is based on careful analysis of original, qualitative data collected for this study. The majority of this data is derived from interviews, with what are referred to in the remainder of the text as 'participants' (effectively, interviewees). The interview material that will begin to appear from the second half of Chapter 5 is identifiable by the use of double quotation marks, italics and a signifying number unique to each participant. An example follows shortly. There are a number of grammatical techniques used to present quoted material in a form conducive to the flow of argument and discussion, all of which are intended to be intuitive. For example, in cases where a quote refers implicitly to an essential concept or term not overtly stated, square brackets are used to specify this information. A series of full stops are used to indicate that a part of a discussion has been excised to capture a specific idea or train of thought more clearly. The following (fabricated) quote illustrates these techniques and the quotation format:

> *"The real tragedy is that what [sustainability schemes] do in order to maximise their success in competition with others... might undermine the overall potential of certification as a tool" [4].*

There are three aspects of the interview process that warrant elaboration: the intention behind this empirical work, the process of identifying participants to be interviewed, and the process of collecting and managing the material.

Firstly, the intention behind this empirical work was to identify key concepts of relevance to each of Chapter 5, 6 and 7's remit. Recall that the empirical sub-question invites an exploration of how responses behave or perform in reality, and what this might suggest about their potential and limitations. Given the different possibilities or 'solution sets' for responding to traded deforestation available to private sector actors and the public sector, respectively, a decision was made *a priori* to devote one chapter to the themes most relevant to each. This decision carved out Chapter 5 for the private sector (and civil society) and Chapter 6 for the public sector. A second conceptual limitation (coverage) that was identified in Chapter 4 is then re-approached empirically in Chapter 7, which explores the possibility that responses may achieve influence beyond their immediate coverage. This effort to identify pathways is of paramount importance to any conception of the overall potential of responses, hence the study's return to this particular limitation.

For each of the three empirical chapters, a theoretically-grounded concept mapping exercise was undertaken, which was then extended, calibrated and – without fail – greatly enhanced by discussions with participants. Relevant themes emerged from each chapter. For Chapter 5's examination of the dynamics of private sector and civil society responses, this theme is the conflicting motivations and behaviours of relevant actors; for Chapter 6, the theme is the web of constraints perceived by policymakers to limit, or at the very least shape, their possible responses to this policy problem. Finally, Chapter 7 identifies numerous pathways through which responses might achieve (or extend) their influence beyond their (necessarily limited) coverage, while also carefully considering and interrogating three 'theories of change' that were discerned as underlying the perspectives with participants.

Secondly, embarking on a concept mapping exercise necessitated interviewing a number of 'key persons', namely practitioners and experts in one or more of the relevant responses for this policy problem (as defined in Chapter 1). Specifically, 'practitioner' refers to a person either employed by, or actively involved as a member or adviser in, one of the responses. The label 'experts' refers to supply chain consultants, policy advisers and advocates (including NGOs) with intimate knowledge of one or more specific responses. These categories are accorded to participants on the basis of their positions at the time of interview. Nevertheless, it was both apparent – sometimes explicitly so – as well as *desirable* that participants drew too on their

previous professional experiences across these roles and categories. A breakdown of the professional roles of participants is provided in Figure 2.1.

Overall, 22 participants comprise the source for the empirical material collected. Of these, 17 were interviewed exclusively for this study, while another 4 provided written material (email correspondence) exclusively for this study. (The remaining participant was interviewed for a related study with which I was involved, as explained in further detail below.) With one exception, all participants were interviewed only once; one participant (*[5]*) provided a second interview to expand upon the themes identified in the first. Interviews lasted an average of 50 minutes, with a modal length of 60 minutes. Interviews were conducted over an eighteen-month period between November 2012 and March 2014.

The participants targeted for this study were those with a compelling understanding, and often intimate perspectives, on responses to tropical deforestation. Inevitably, the fact that some of these participants worked for or on a given response might call into question their neutrality. There was little that could be done to guard against this, other than seek alternative opinions and pose difficult questions, but I am convinced that the interview format allowed honest appraisals of the subject matter. To my mind, clues to this effect could be found in participants' eagerness to talk anonymously, their willingness to refer me on to others with whom they vehemently – and publicly – disagree, as well as their proclivity to acknowledge the drawbacks, dangers and risks of their and likeminded organisations' undertakings. At no point did I sense that I was receiving 'the company line', and I remained extremely alert to the prospect. As a final point on this matter, there is simply no way other than through interviews with such participants that I could delve into and discern the motivations – many of them hidden from public view – of the actors behind certain responses.

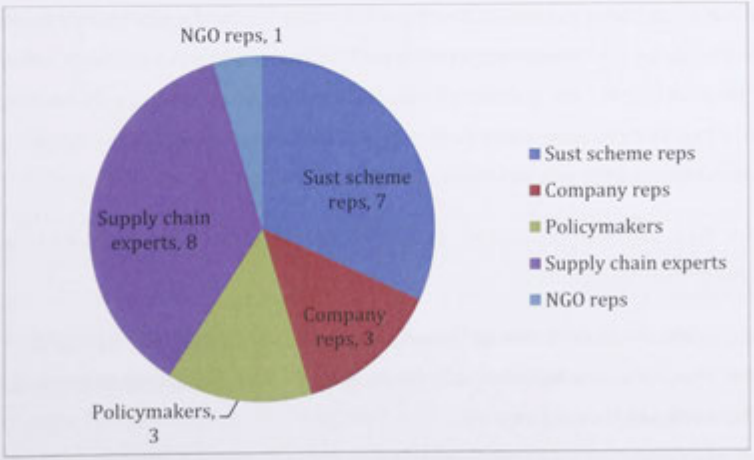
Further explanation and justification can also be provided on the choice to use *semi-structured* interviews, with these participants, to form the body of empirical work that follows later in this thesis. This is particularly so in light of several alternatives, including surveying and focus groups, as well as more rigidly structured interviews. The justification is relatively straightforward for choosing to use semi-structured interviews. Given the novelty of this research effort, attempting to weave together a high-level synthesis about broad patterns and key themes, the method chosen had to allow for the emergence of those patterns and themes from participants while providing – through the questions – a framework for the ideas.

In comparison, to an almost unavoidable extent, surveys require a pre-supposition of the range of relevant themes, and given the professional constraints faced by many of this study's participants, do not allow adequate time or space for follow-up questioning and exploration.

Rigidly structured interviews, whereby I could have reeled off a predetermined list of questions, are vulnerable to the same drawbacks. While these alternative methods may have allowed for easy comparison of answers across participants, as well as some quantification of the importance with which certain themes were perceived, these merits are less conducive to the type of novel and broad analysis that forms the core motivating purpose of this thesis. Semi-structured interviews offer the best of both worlds: flexibility in the concepts discussed, including space for participants to steer conversations towards what they judge to be most critical, while nonetheless allowing me to pose direct questions on particular topics that had already emerged (or which I suspected would emerge) as relevant for the analysis.

The consequences of this choice of method are worth noting explicitly. Due to the required investment of time and effort, as well as vulnerability to any difficult questions I might unexpectedly pose, it is likely that fewer people became participants in this study than might have been the case had I simply circulated a survey or straightforward list of questions. As a result, the final count of participants – 22 – may seem minimal, although of course it is worth bearing in mind the wide range of topics that can be covered in this many hours of interview. Nonetheless, this is one limitation of the study and - consequently - the ability to generalise its conclusions, but it is an unavoidable one. Also countering the lower number of participants than would have been available using other techniques was the generosity – in time, thought and consideration – of the participants who did partake in the study.

Figure 2.1 Professional roles of participants in this study



The process of identifying participants to take part in this study proceeded along multiple tracks. The first person to eventually become a participant was visiting the research institution

at which I was based (the Center for International Forestry Research, CIFOR) soon after I had arrived there myself; the meeting was pure chance. Just as coincidental was my encounter with another eventual participant on a street corner in Singapore, while I was visiting that city for the annual meeting of the Roundtable for Sustainable Palm Oil in 2012.

Usually, however, further participants were identified by more intentional means. For example, all participants were asked at the conclusion of their interviews for referrals (and often, introductions) to any others who might have been informed about the themes and questions that I was pursuing in this study. This strategy was very successful and many participants were 'recruited' in this way. Critically, I was also able to attend two events – the aforementioned RSPO annual meeting in 2012, as well as an Asia-Pacific Economic Cooperation (APEC) Experts' Group on Illegal Logging and Associated Trade workshop held in Medan in June, 2013 – which enabled me to introduce myself and my research to speakers and fellow attendees, thereby eliciting some level of interest and a willingness to further discuss in interview format. Finally, I took the direct approach of emailing a number of prospective participants, some of whom responded by granting interviews and others of which provided written correspondence that was incorporated into the study's empirical material. There were also multiple non-responses, as is to be expected given the profile and schedules of the people whom I had approached.

My attendance at the two events mentioned in the previous paragraph generated not only a handful of participants but also rich material garnered during presentations and comments made at the proceedings of these events. For the RSPO event, comments made on stage in presentations, discussions and Q&As were taken as 'public', enabling quotes to be attributed to individuals by name and organisation. For the APEC event, to which I was invited by the Australian delegation (an invitation not contested by any attending delegations), follow-up approval was sought from and granted by private sector presenters, while comments by country delegations were again taken as 'on-record'. Audio recordings and personal notes exist to ensure the fidelity of the comments presented in this study.

Clearly then, there are multiple sources of empirical data used in this study. Summarised explicitly, these sources comprise:

- interviews and written correspondences gathered exclusively for this study,
- presentations and comments made on-stage in discussion and Q&A sessions at the two aforementioned events, and
- one additional interview, conducted as part of a conceptually-aligned research project of which I was a part (see further below).

All of this material was assessed equally; i.e. was *a priori* accorded equal veracity and reliability. The intention behind interviews and written correspondences was to allow space for deeper understandings and perspectives to emerge, including those that individuals or organisations may not wish to have attributed to them publicly. It is for this reason that anonymity is granted as a default for interviews and written correspondences, although some participants were keener than others to ensure – as best as possible – this condition. The entirety of this research was conducted in accordance with the guidelines of the ANU Human Research Ethics Committee, and the Protocol for this research is 2012/059.

Consistent with its equal assessment, material was also handled consistently. For all interviews, as well as presentations, discussions and Q&As and the two events, material was recorded using a dictaphone, before being transcribed and ultimately coded with what I judged at the time were its emerging themes. Coding was done manually rather than with the use of software, with material for each theme collated into a 'super-structure document' for ease of referral during the writing of chapters. Written material – namely, email correspondences – was similarly coded and collated. Material was often revisited and re-coded during the writing of empirical chapters and as the addition of further material clarified the direction and themes of each chapter. For each chapter, there came a certain point within the tic-tac of writing and interviewing where it was apparent that I was in possession of sufficient insights and perspectives to identify and develop each of the most important themes. At these points, the quest for further participants was generally halted, and my attention turned to finalising the exploration of existing material and the writing of chapters.

Finally, this methods section has twice referred to a research project, of which I was a part, as a supplementary source for material. Specifically, two quotes are used from one participant in that research, which was conducted with several colleagues of mine from CIFOR during 2013-14. Thus, there is one additional participant ([22]), from whom approval has been sought, and granted, to include these specific quotes. The paper produced by this project (Djama et al., forthcoming) concerns an emerging trend whereby producer governments of exported commodities such as palm oil initiate domestic legality or sustainability 'schemes' as a reflexive response to dissatisfaction with existing international schemes. This point is mentioned and explored briefly in Chapter 6. My involvement in this project was straightforward: I attended one interview personally but played a more involved role in collating and analysing interview data (there were 14 interviews in total) and identifying themes. It was during these activities that I realised the pertinence of the two quotes that have been drawn on for this study.

Key terms

Throughout this study, several terms appear regularly. Some of these terms, such as 'traded deforestation', have been elaborated on in the previous chapter. This section of the chapter briefly acknowledges the importance of four more of these semantic markers, and while recognising that none of them is perfect, argues their selection over the alternatives considered.

The umbrella term 'responses' was first introduced in Chapter 1, yet warrants further explanation here on the basis of its centrality to this study. Collecting together the policy, regulatory and institutional responses relevant to traded deforestation, which marks one of this study's pioneering contributions, requires combining markedly different *types* of responses operating through international supply chains for the deforestation commodities. A single term is needed to semantically unify – and thereby demonstrate the similar objectives of – these responses. Multiple other labels, including 'interventions', 'initiatives' and 'instruments' would have sufficed in this task. In addition, however, the term 'responses' is felt to better match Chapter 1's characterisation of these entities *in relation to* the general recognition of the problem of traded deforestation. The evolution of these 'policy, regulatory and institutional' responses, as introduced in Chapter 1 (and their imminent labelling in Chapter 3 as 'governance' responses), reflects the development in that chapter of the argument that what these responses attempt to achieve is to remedy a governance gap for international supply chains.

Implicit within the word 'response', is the seed of a further question that can be usefully elaborated on; namely, what are responses *responding to*? Immediate candidates for answers include 'tropical deforestation' and 'traded deforestation', of course, yet both seem too broad. Tropical deforestation has generated a host of responses, some of which are domestic within tropical countries, and others of which are international but focused on financing for palm oil plantations, for example. Traded deforestation is much more specific and close to the mark, implying a focus on international supply chains. Yet because only a subsection of actors in a handful of jurisdictions have generated all of the responses relevant to this study, these actors cannot be said to be responding to traded deforestation *as a problem* in its entirety. Rather, it seems more precise to state that what actors are responding to is *their connection to* that deforestation, whether through a company's own supply chains, or for governments, through either procurement or the broader responsibility it has for governing the economic activity of a given jurisdiction.

Without stealing Chapter 4's thunder, a telling and consistent discrepancy is evident between what these responses are *designed* to respond to (a specific connection to deforestation) and the rhetoric that accompanies their announcement and implementation, which usually refers

instead to the broad problem of tropical deforestation. The phrasing of this study's primary research question, which asks what limitations there are on responses' contribution to slowing tropical deforestation, is aimed squarely at this disjunct between responses' stated objectives and rhetoric, versus their design. Chapter 4's discussions of framing and limits to coverage will extrapolate on this discrepancy.

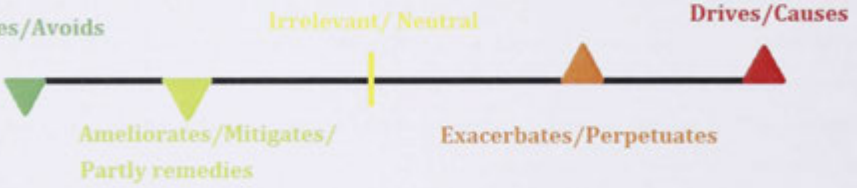
There is another set of relationships that can now be bedded down more explicitly than previous discussions have allowed. The first clarification is narrow: the terms used to characterise both the relationship between tropical deforestation, on the one hand, and either (a) the commodities of timber, palm oil, soya, beef and leather, or (b) relevant downstream actors, on the other. This study uses the terms 'associated with', 'connected to' and 'implicated in' interchangeably to refer to the link that lies at the heart of traded deforestation, while recognising their nuanced strength. The use of multiple terms is intended merely to avoid monotony or overuse of any single one.

The same terms are used to define a much broader relationship that exists between, on the one hand, international trade, and 'middle ground' environmental problems (i.e. neither wholly domestic nor wholly international) on the other. That is, this study refers to international trade that is 'associated with', 'connected to' and 'implicated in' certain environmental problems. (At times, this relationship is simplified to the possessive term, 'the environmental problems of international trade'.) Yet the use of these terms to connect *international trade itself* to deforestation is likely to be more contentious than in connecting certain commodities to deforestation, due to a long-standing debate over the nature of the relationship between international trade and environmental problems.

This debate, which is highly relevant to traded deforestation, is worth briefly canvassing here in terms of the semantic decisions that this study has made. An entry-point can be found in the two following questions: What impact does international trade have on environmental problems? Would a given environmental problem (such as tropical deforestation) be improved or worsened in the absence of international trade, or even with reduced levels of trade? The impacts of international trade are likely to differ across given environmental problems, a point that culminates in a spectrum of plausible answers to the questions above. This spectrum is captured in Figure 2.2, below. There are some problems that international trade is not just 'associated with' or 'connected to', but is more specifically *a causal driver of*, with the consequence that restricting relevant trades would ameliorate the problem and stopping those trades would ultimately 'stop' the problem. One salient example at the time of writing is the decimation of wildlife populations in Africa (namely, elephants and rhinos) and southeast Asia

(pangolins and reef fish, for example) *almost exclusively* in order to supply international markets – often in China and Hong Kong – for these animals (and their body parts)(Akella and Allan, 2012). While international trade is only ever a conduit between demand and supply, in this case it is in fact *essential* for these environmental problems (usually also crimes) to occur. Preventing this trade, as CITES attempts to do, would preclude that environmental problem.

Figure 2.2 Spectrum showing the range of relationships between international trade and a given environmental problem.



Nb. The terms 'associated with', 'connected to' and 'implicated in' could refer to *the whole spectrum* of possible impacts, although as used in this study they often connote negative (causing or exacerbating) relationship.

Conceivably, for other environmental problems international trade may instead exert a positive impact, ameliorating or even avoiding a given problem. This possibility is often proposed by proponents of international trade as the default nature of the relationship, with or without empirical support, creating a *carte blanche* justification for the political and policy priority accorded to the trade liberalisation agenda *vis-à-vis* environmental (and other) problems. The position draws heavily on the (theoretical) premise that economic activity will occur in locations where comparative advantages exist, a premise that at its extreme led former World Bank chief economist Lawrence Summers to agree that the relocation of polluting industries from industrialised (developed) to industrialising (developing) countries made sense because the economic costs of pollution, measured in sick days and lost earnings, were less in countries where people were poorer (Wikipedia, 2013). While most non-economists, as well as many economists, would find this argument challenging, the statement nonetheless provides an accurate representation of the 'impeccable…economic logic' (ibid.) contained with neoclassical economic thought.

This brief blast of economic theory aside, let me state that this study does not deny the conceptual possibility that international trade may ameliorate some environmental problems. When countries are able to source the ingredients for their economies abroad, they may be able

to leave domestic reserves untapped, which in the case of an unchangeable (inelastic) demand for a given resource or commodity, may in turn reduce or avoid certain environmental problems. From this admittedly limited environmental perspective, it may therefore make sense for both the US and Ecuador to source as much of their petroleum oil from Saudi Arabia for as long as possible, leaving domestic reserves under the Arctic and Amazon, respectively, untouched. Such problems occupy the opposite extreme on the spectrum in Figure 2.2, where the impact of international trade on a given environmental problem is favourable and positive.

Between these two extremes of 'causing' and 'avoiding' problems, it seems apparent that international trade might also either 'exacerbate' or 'ameliorate' environmental problems. These points are also shown on the spectrum in Figure 2.2. Through modelling the appropriate counter-factuals, for example, Christea et al. (2013) can conclude that international trade worsens the greenhouse gas emissions associated with production in 66 percent of traded commodities. Other studies introduced in the opening section of this chapter implicitly answer along the same lines – *sans* modelling – with for example Wiedmann et al. (2013) finding that some countries have been able to use international trade to make use of greater areas of land than exist within their own jurisdiction. Given that these areas of land have often been converted from some of the highest conservation-value ecosystems on earth (the Brazilian Amazon and Argentinean *cerrado*, for example), it follows that trade has necessarily had an exacerbating impact on environmental problems such as land and forest clearing, as well as threats to biodiversity.

Even if international trade is recognised as exacerbating or causing certain environmental problems, however, all of the above reasoning does not prejudge the deep-rooted question of whether it might still be 'worth it'. A situation where countries are completely self-reliant – a state of autarky – need not necessarily be an improvement over a situation where trade exists. However, Chapter 3 will assert the existence of a governance gap for the causal relationship between international trade and environmental problems. As such, it seems essential to better articulate the nature of these relationships in order to assess the questions of 'if' and 'how much' trade is truly desirable. Filling out some of the details of these relationships has been the outstanding contribution of the body of empirical research canvassed in the opening to this chapter.

Lying in the middle of Figure 2.2.'s spectrum is a gap, where the effect of international trade on environmental problems becomes 'irrelevant' or 'neutral'. This position, which in no way assumes 'no trade', may be more fully characterised as 'no causal relationship'. It is at least *possible* that this may best characterise the relationship between trade and one of the

deforestation commodities: palm oil. An argument along these lines might run as follows. While international demand for palm oil exists, and is supplied, the former does not necessarily precipitate the latter. Rather, the production of palm oil is spurred largely by a host of targets, subsidy payments and other incentives enacted by the Government of Indonesia to promote the palm oil industry (for economic as well as social reasons; Obidzinski et al., 2012). Much of Indonesia's palm oil is also consumed domestically. In this scenario, then, reduced international demand for palm oil (or even for palm oil implicated in deforestation) might instead induce *new* domestic uses for the crop, for example as a fuel for the national airline, Garuda Indonesia (Mongabay, 2014d). The expanding production of palm oil, with its concomitant effects for Indonesia's humid forests, is being driven more by factors at work on the side of supply, rather than demand. When demand is a factor, domestic demand may be sufficient to continue the expansion of production.

These dynamics are not limited to the deforestation commodities, nor to Indonesia; to my knowledge, they have been best examined in relation to the US production of corn. In the book Omnivore's Dilemma, Michael Pollan documents how supply-side stimulation determines the levels of production for the crop, with corn derivates proliferating within products sold in US supermarkets on the basis of that cheap supply (Pollan, 2006). (Demonstrating an example of a problem enabled by international trade, some of that corn – roughly 5-10 percent – is also exported to Mexico, which while lowering the price of a staple food cheaply, also undermines the livelihoods of Mexican corn producers; National Geographic, 2014.) For palm oil, the increasing use of the oil and its derivates within thousands of manufactured food, cosmetic and cleaning products might stem from its abundant (and therefore cheap) supply, rather than demand specifically for it. I will leave to the philosophers the question of whether it is possible to benefit from an environmental problem without begin complicit in its incurrence.

So then, is international trade causing or exacerbating deforestation? I would argue that in broad terms there *is* a causal relationship between the two, and further that trade's impact is highly likely to 'exacerbate' or at least 'facilitate' deforestation. In some cases, such as deforestation to enable the production of Brazilian soya, the high percentage of production that is exported suggests a strong causal role for trade. For other cases, even for Brazilian beef, the high percentage of domestic consumption suggests a smaller, though still causal, role. To resolve the question of semantics that launched the above discussion, then, I will make use of the terms 'associated with' and 'connected to' to demonstrate an unspecified relationship between international trade and environmental problems (which may nonetheless be a causal one). For international trade and deforestation, specifically, as well as any other evidenced problems, I

will use 'implicated in'. At times when it is not necessary to specify the underlying nature of the relationship, I will use the 'environmental problems of international trade' as shorthand.

The opening chapter canvassed a set of policy, regulatory and institutional responses to tropical deforestation that has been enacted by actors beyond the tropics. Underlying these responses is an acceptance of the idea that international trade can connect environmental problems in one location to the distant consumption of implicated commodities. This idea has long been qualitatively recognised as a possibility, yet only recently has an emerging body of quantitative research allowed its relevance to be affirmed for many contemporary environmental problems. Chapter 2 surveyed this emerging literature and explained the importance of tropical deforestation as a case study with a relatively advanced set of responses.

Against that backdrop, this chapter will introduce several ideas from the environmental governance literature, including the concepts of a 'governance gap', 'teleconnections' and 'distance', to conceptualise this study's downstream responses to deforestation. A crucial part of this task is to identify precisely what downstream actors construe as problematic through these responses. This 'subject of governance' is then subjected to scrutiny with reference to some alternatives emphasised by other environmental literatures on consumption and globalisation.

Introducing governance

In general terms, governance has been described as 'a concept that... reflect[s] the notion that the public sector is not the only controlling actor when it comes to... collective-action problems' (Vermeulen and Kok, 2012:184). Thus a distinction can be drawn between gover*nance* and govern*ment*, the primary difference being that the latter is enacted by a single actor – the state – while the former is enacted by multiple actors, sometimes including the state but more often consisting of actors from the private sector and civil society. Indeed, the transboundary nature of the problems presented in the previous section tends to 'lower the effectiveness of government', meaning that 'governance starts to appear attractive to other actors', even if 'their own effectiveness (and legitimacy) is crucially dependent on the presence of the state' (Borzel, 2010, in Bulkeley and Jordan, 2012:564). In turn, one definition of 'environmental governance' is as 'the means by which society determines and acts on goals and priorities related to the management of the environment' (Vermeulen and Kok, 2012: 184). Again, for transboundary problems this definition can be expanded to recognise the potential for actors from *multiple* societies to become active within its governance.

The previous chapter surveyed a range of environmental problems whose nature is transboundary by virtue of international trade. Importantly, such problems do not conform to what Biermann et al. (2010) call 'traditional notions of environmental policy' (p203). As these authors explain,

> 'traditional notions of environmental policy, pollution control and nature conservation do not capture current global developments that transform the bio-geophysical cycles and processes of our planet' (p203).

A similar realisation was communicated almost a decade earlier by Lambin et al. (2001), who wrote that 'global forces increasingly replace or rearrange the local factors determining land uses [including deforestation], building new, global cause-connection patterns in their place' (p266). Tropical deforestation, especially as understood by downstream actors, clearly fits into this category, and it is these 'global cause-connection patterns' that this chapter will soon characterise.

The quantitative research that the previous chapter presented affirms the transboundary nature of specific environmental problems, as – for example – Lenzen et al. (2012) conclude: 'our results emphasise the importance of examining biodiversity loss as a global systemic phenomenon, instead of looking at the degrading or polluting producers in isolation' (p109). Fittingly, some authors observe 'an active reengagement with the transnational as a distinct and researchable sphere of politics', including among environmental governance researchers (Bulkeley and Jordan, 2012:556). Quoting these authors in full,

> 'A critical facet of this growing interest in global environmental governance (and governance more generally) has thus been an active reengagement with the transnational as a distinct and researchable sphere of politics. ... In brief, scholars concerned with the transnational arena seek to understand the ways in which institutions, forms of cooperation, and new political spaces are emerging which cut across traditional jurisdictional boundaries set by national borders' (ibid.).

The study of governance itself, then, is moving to align itself with the 'global forces' identified by Lambin et al. (2001) and the nature of transboundary problems. In part, this realignment of governance research has been consciously sought. Perhaps the best example of this approach can be found in the Earth System Governance Project (ESGP), which was formed in 2008 to bring together scientists working on governance issues at a global scale. The ESGP stated its premise as follows:

> 'New perspectives and research are needed to understand the complex relation between global transformations of social and natural systems, including accelerating economic integration, globalisation in all its forms, internationalisation of policy processes, and multi-scale consequences of ecological transformation. Innovative research is needed also to analyse *political options to govern sustainable development*' (emphasis added; Biermann et al., 2010:203).

Environmental governance is uniquely suited to the challenge of analysing these 'political options'. Its scope and flexibility renders it uniquely able to grapple with the conundrum that 'most problems of earth system transformation are unprecedented' and 'adequate policies, polities and, especially, modes of allocation are uncertain, initially always contested, and need to be developed and agreed upon by societies over time' (Biermann, 2007:330). And because governance can encompass the ideas of environmental economics, for example, it can also go beyond the territory that other disciplines comfortably inhabit, allowing – in this case – non-economic factors to be discerned and included. This is for the best, as Schandl et al. (2011) elaborate in an outlook for resource efficiency in Asia and the Pacific,

> 'Prices alone do not provide appropriate signals for enabling resource efficiency and systems innovation because global resource markets are characterised by complex producer-consumer networks and complicated institutional and power relationships. It will require new forms of governance together with market incentives to improve current resource efficiency trends, alter consumption behaviours and trigger systems innovation' (2011:1).

Similarly, in their wide-ranging examination of the relationships between agriculture, biodiversity and markets, Lockie and Carpenter (2010) ultimately concur, noting that: 'There is a danger that... every social and environmental issue will come to be conceptualised first and foremost as an example of market failure, blinkering us to alternative ways of understanding and addressing those issues' (p312). These authors' caution applies equally to tropical deforestation, a danger that this study defuses by drawing on the broader disciplinary scope of environmental governance to examine responses to traded deforestation.

A governance gap

The evidence presented in the previous chapter, as well as Chapter 1's survey of deforestation science, implicates international trade in multiple major environmental problems. Yet for a deceptively simple reason, many of the authors of that evidence are not surprised by the

growing significance of trade in these problems: namely, because these problems are relatively inconsequential to the decision-making processes, or governance, of trade. For instance, as Yu et al. (2013) note in their study of land use, although 'in principle, trade can spatially distribute environmental burden among the least sensitive natural systems land resources... *this would be by coincidence rather than design*' given that such decisions are 'mainly built on [factors other] than environmental considerations' (emphasis added; p1184). Similarly, for virtual (or embodied) water trade, Seekell et al. (2011) conclude that, 'the concept of virtual water has not been actively employed as a policy tool to avoid conflict because *water is not generally the dominant factor in making trade decisions*' (emphasis added; p1). Also for virtual water, Hoff (2009) calls for this invisibility to be remedied, stating that 'international trade and foreign investments need to take into account their effects on water resources across regions' (p145). Finally, in relation to greenhouse gas emissions, Cristea et al. (2013) agree that 'the emissions associated with international transportation are largely overlooked, [including] in the text of existing agreements such as the Kyoto Protocol regulations' (p153). Peters et al. (2011) agree that the 'likely cause of the large emission transfers we report here [for internationally-traded products] are pre-existing policies and socioeconomic factors that are unrelated to climate policy itself' (p8907).

These examples are indicative of the presence of a 'governance gap', in line with a broad definition provided by Dauvergne and Lister (2012) who argue that 'global environmental problems persist as economic growth continues to *outpace the institutional response* to promote sustainability' (emphasis added; p42). While this study focuses in on one particular aspect of economic growth – international trade – these authors nonetheless capture the importance of the relationship between, on the one hand, the drivers of a given problem, and on the other, its institutional remedies. The idea of the governance gap is echoed in strikingly similar terms by other environmental governance research. Ruggie, for instance, writes that 'One [governance gap] consists of the gaps between the scope and complexity of the challenges we face, including environmental threats, and the institutional means through which we strive to deal with them' (2002). Further, one of the founders of the environmental governance field, the late Elinor Ostrom, echoed this thought with her co-authors when they wrote that:

> 'Ideal conditions for [environmental] governance are increasingly rare. Critical problems, such as transboundary pollution, tropical deforestation and climate change, are at larger scales and involve non-local influences... *Devising effective governance arrangements is akin to a co-evolutionary race'* (emphasis added; Dietz et al., 2003:1907).

These quotes from the environmental governance literature share the idea that a gap or imbalance has emerged between, on the one hand, the processes driving environmental impacts, and on the other, the 'institutional response', 'institutional means' or 'governance arrangements' that are needed to mitigate against those impacts. Thus environmental impacts are being driven by institutions designed to further other ends, namely increases in international trade. As Dietz et al. (2003) note, echoing the point made in much of the empirical research above,

> 'Commerce has become regional, national, and global, and institutions at all of these levels have been created to enable and regulate trade... These institutions shape environmental impact, even if they are not designed with that intent' (p1908).

Others see a more insidious relationship between the two participants in governance's 'co-evolutionary race', with governance arrangements effectively handicapped by 'a growing imbalance in global rulemaking' (Ruggie, 2002:298). He continues,

> 'Those rules that favour global market expansion have become more robust and enforceable in the last decade or two – intellectual property rights being a prime example. But rules intended to promote equally valid social objectives, be they poverty reduction, labour standards, human rights or environmental quality, lag behind and in some instances have actually been weakened' (ibid.).

In other words, the failure of effective governance arrangements to emerge for the environmental impacts of trade is not accidental, but rather a reflection of the differing priorities given to these two objectives, which the above empirical literature has demonstrated to be – to some degree – contrary, if not incompatible. (Chapter 6 of this study will identify a two-fold effect of the institutions designed to promote international trade, especially the WTO, since they not only 'shape environmental impact' but they also affect the nature of governance responses available to downstream actors to mitigate those impacts. Thus responses to traded deforestation occur within a broader, pro-trade context, supporting Ruggie's claim of an 'imbalance in global rulemaking'.)

Despite the broad concurrence across these quotes from Dietz et al. (2003), Ruggie (2002), and Dauvergne and Lister (2012) on the idea of a governance gap, they are nonetheless misaligned in one crucial way: these authors diverge in *where* they locate the governance gap. While Dietz et al. (2003) focus on a gap for particular environmental problems such as transboundary pollution, tropical deforestation and climate change, for example, Ruggie (2002) is instead concerned with a gap for international trade, and Dauvergne and Lister (2012) refer to a gap for the broader relationship between economic growth and environmental impacts. This

discrepancy is significant, since it reflects (implicit) disagreement within environmental governance research over the appropriate *subject of governance*. Helpfully, this study's responses to tropical deforestation can inform this discussion, since they offer *an* answer to the critical question of exactly what needs to be governed.

Current responses to tropical deforestation can now be seen clearly for what they are, and conversely what they are not. They are *not* responses to Ruggie's (2002) gap for international trade *per se*, in that they do not seek to place limits on the magnitude or directions of that trade, even if some responses aspire to prevent *illegal* trade of timber. Nor do they align with Dietz et al.'s (2003) gap for whole environmental problems, in this case tropical deforestation, which suggest an overarching governance structure (Chapter 4 emphasises the uncoordinated nature of the current response set). Far less are they responses to Dauvergne and Lister's (2012) gap for economic growth. Instead, responses take a more circumscribed subject for governance: international supply chains for the deforestation commodities, with particular attention to illegal or unsustainable *versions* of these commodities. This is not just a characteristic used to determine inclusion within this study's ambit; with the prominent exception of REDD+, the focus on supply chains is a defining feature of downstream actors' responses to deforestation. Yet what the authors above implicitly show through their advocacy of alternative subjects of governance is that supply chains are only one of many possible alternatives. Indeed, they lie at more circumscribed end of a spectrum of these alternatives. More encompassing alternatives on this spectrum could include international trade, globalisation, consumption, economic growth, and perhaps ultimately, capitalism.

Tellingly, as Newell et al. (2012) note, 'There is a politics to making claims about where governance deficits lie and why and who gets to frame discussions about which alternatives are appropriate, desirable, and viable' (p367). The literature on alternative subjects of governance has much to offer – by way of constructive critique – for current responses to the deforestation commodities, and a later part of this chapter will draw on consumption, globalisation and capitalism literatures to further scrutinise responses' choice of subject of governance. Beforehand, however, a more robust theoretical backing is need to better explain the *nature* of responses, including by fitting them into the aforementioned framework of a governance gap, a task to which this chapter now turns with the aid of theory on supply chains, 'teleconnections' and 'distance'.

Literatures on the nature of responses

The inadequacy of supply chains governance literatures

All of the responses introduced in Chapter 1 select supply chains for the deforestation commodities as their subject of governance. This is a useful juncture at which to introduce in greater detail the theoretical construct of the 'supply chain', which is closely related to a 'product chain', 'global commodity chain' or 'global value chain', according to the interwoven literatures on these topics. The differences between these literatures are not wholly pertinent here, as further and more suited theoretical constructs will soon be introduced (however, see Bair, 2005, for an excellent overview). Yet the importance of these literatures here is in the support they lend for the use of international supply chains as an appropriate subject of governance.

According to Gibbon and Ponte (2008), then, global value chain theory 'postulates that the global economy can be usefully understood as a combination of discrete, product-specific 'value chains' rather than of liberalised markets' (p366). As Bair explains,

> 'Tracing the path of a commodity... provides a grounded way to study and operationalise the global-local nexus. The[se] method[s] permit one to analyse globalisation in situ, directing our attention to the specific locations where particular production processes occur, while simultaneously illuminating how these discrete locations and activities are connected to each other as constituent links that collectively comprise the commodity chain' (2005:158).

Boons and Wagner (2009, in Boons et al., 2012) concur, noting that 'the product chain is one possible unit of analysis that can be adopted by practitioners and researchers to assess the interplay between economic and ecological dynamics' (p134). Similarly, Bair (2005) writes that 'commodity chains are tools that enable one to study the operation of global capitalism beyond the territorial confines of the national economy' (p156). Some of the research presented in the previous chapter indeed relied on a chain-by-chain analysis of international trade, and as such, authors were able to identify which chains were most implicated in a given environmental problem. For example, Lenzen et al.'s (2012) study of 'over 5 billion supply chains' (p109) identified those stemming from the forestry industry in Papua New Guinea, fisheries throughout much of the Pacific islands, and manufacturing industries in China, Canada and Indonesia as especially implicated in threats to at-risk species. Using this same 'unit of analysis' for tropical deforestation, then, Chapter 1 clearly showed that current science supports the connection of supply chains for palm oil in southeast Asia, beef and soya in the Amazon, and timber from all three tropical regions to deforestation. The European Commission's Impact of Consumption

report (EC, 2013) confirmed that supply chains for soybean, palm oil and cacao comprised the bulk of the EU's imported deforestation during the period 1990-2008. Finally, the UK Government's palm oil mapping study (Bottriell et al., 2011) achieved even more fine-grained understanding of that commodity's routes along various supply chains within the UK. These studies confirm Boons and Wagner's (2009) claim about the utility of the supply chain as a 'unit of analysis' (in Boons et al., 2012:134).

This study's subject matter – downstream responses to traded deforestation – draws on supply chains not just for analysis, however, but also as the mechanism through which downstream actors have *responded* to the underlying problem. (The inclusion of two partial exceptions, labelling initiatives and FLEGT, are explained in detail in Chapter 4.) Many authors approve of responses' subject of governance as an appropriate, and potentially potent, one from the available alternatives. Vermeulen and Kok (2012), for instance, write that, 'sustainable supply chain governance systems are successful in integrating the complex wide spectrum of sustainability issues into one 'all inclusive' instrument' (p190). Similarly, Dauvergne and Lister (2012) contend that 'the supply chains of the world's largest brand companies... offer vital leverage points to produce the range, response, and coordination necessary for more systemic global market changes' (p42). Bair (2005) concludes that,

> 'One significant thrust of [global commodity chain research] has been to create accountability in global industries by demanding that lead firms take responsibility for what happens in the factories of their suppliers and subcontractors around the world... Such 'real world' applications of the commodity chain concept are among the most fruitful implications of [this concept] to date' (p161).

Yet as the debate within the governance gap literature shows, supply chains are only one of many possible alternative subjects of governance. (This chapter will later return to the question to examining these alternatives in order to illuminate the consequences of using supply chains. Then Chapter 3 will elucidate why responses to tropical deforestation therefore offer an exceptional case study to scrutinise the use of supply chains as a mechanism to respond to a contemporary yet distant environmental problem.) In the meantime, it remains to be seen whether the supply chain literatures provide a suitable framework for understanding the nature of current response.

Already there are perspectives challenging whether the idea of the 'chain' captures the relationships most relevant to tropical deforestation. Indeed, Dauvergne and Lister (2011) argue that international trade could be better conceptualised as occurring not 'along chains', which imply stability and linearity, but 'through networks' (p5), suggesting a non-linearity in

both space and time. (Later in this chapter this non-linearity is shown to be one of the primary features of globalisation, and Chapter 7 will ultimately question whether attending to, and partly reversing, this feature might be necessary for responses to avoid simply displacing problematic commodities.) For present purposes, however, the importance of the non-linearity of supply 'networks' is the greater complexity that can therefore be expected in both analysing and responding to the upstream problems of international trade.

More significant still is the limited sense in which the concept of 'governance' has been applied by some of the existing literatures on chains. As Bair (2005) explains, the commodity and value chain literatures have taken 'governance' to mean,

> 'the question of which firms in the chain are most able to control various aspects of the production process and how they appropriate and/or distribute the value that is created. Thus, to describe a chain's governance structure is to illuminate the nature of power relations that exist along a chain' (p159).

These power relations are undoubtedly relevant to *how* current responses to deforestation operate (as Chapter 5 and 7 touch on). But this interpretation of governance, focused on the arrangement of actors within the chain in order to explain distributions of economic value, fails to recognise – or shed light on remedies for – the governance gap that has spurred responses to tropical deforestation. This shortcoming is two-fold: these literatures take chains as a given focus, therefore providing insufficient scope for examining this as *one among many* possible alternatives; and in their concern with the distribution of economic value within chains, they provide no traction on the problems beyond chains that empirical research has increasingly connected to those chains. In other words, the governance 'dimension' within chain literatures is incapable of providing a platform for examining current responses' attempts to fill a perceived governance gap for tropical deforestation. Fortunately, there are two other theoretical contributions that, especially when combined and extended, can create the necessary platform.

'Teleconnections'

The essence of the problem of tropical deforestation as responded to by downstream actors is the idea of 'spatial interdependencies' between activities in one place (the consumption of certain traded commodities) and consequences in another (deforestation). Other disciplines have also grappled with this idea of spatial interdependencies, one of which – climate science – has coined the term 'teleconnections'. Writing about the global hydrological system, Alcamo et

al. (2008) appropriated this term and defined it as 'a cause-and-effect chain that operates through several intermediate steps and leads to unexpected linkages' (p2). Further, these authors suggest the presence of three different *forms* of teleconnections (with Hoff's (2009) examples in brackets):

- biophysical (forest loss in one location leading to reduced rainfall in another),
- socio-economic (international demand for soybean propelling Amazonian deforestation), and
- institutional (afforestation policies leading to reduced river run-off)(p142-3).

Hoff's (2009) own examples demonstrate an immediate relevance to the problem of tropical deforestation, although its *biophysical* teleconnections are largely beyond the remit of this study. The latter two forms of teleconnections, on the other hand, are highly pertinent to the questions of governance considered by this chapter. The linkages that international trade forges between distant consumers and tropical deforestation, as identified in Chapter 1, can be characterised as *socio-economic* teleconnections. This study's set of responses to these socio-economic teleconnections are in turn *institutional* teleconnections. With the benefit of these characterisations, the governance gap that current responses aim to close can be precisely articulated: the capacity of international trade in a handful of commodities to connect downstream actors to deforestation (socio-economic teleconnections) has eclipsed the capacity of actors to govern those connections (institutional teleconnections).

How significant, then, does this governance gap remain? An answer to this requires precisely what this study seeks to contribute: an understanding of the limitations on current responses. The recent history of this gap is more straightforward; until the formation of the FSC in 1993, no governance responses had emerged to respond to the connection of downstream actors to tropical deforestation through international trade in a handful of specified commodities. Partly, as Chapter 1 noted, the drivers of deforestation were still undergoing a transition during the 1980s, even if the trends had by then become at the very least detectable. And further, as that chapter also noted, inter-governmental attempts to forge a collaborative, governmental response for problematic timber trade continued in earnest until the early 1990s. The collapse of these negotiations may have been a necessary prerequisite to usher in the subsequent 'age of experimentation'. In any case, until the early 1990s, the governance gap for downstream actors' connection to deforestation was near complete.

Yet while current governance responses – institutional teleconnections – to deforestation carry considerable promise, the results of Dietz et al.'s (2003) 'co-evolutionary race' remain as yet unknown. Indeed, perhaps that race is still being run, with the experiences of downstream

actors amidst continuing deforestation bearing out Hoff's reminder that 'functional (and natural and social) spatial interdependencies pose difficult challenges for global governance' (2009:142).

Teleconnections have usefully characterised the governance gap that current responses to deforestation attempt to close, and this chapter will now show how a further useful concept – distance – expands on, and provides new insight into, the nature of deforestation's teleconnections.

'Distance'

Distance is a defining feature of the problems of international trade. An analysis of distance as a concept is provided by Princen (2002), who identifies multiple *dimensions* of distance, which increase 'the separation between primary resource extraction decisions and ultimate consumption decisions' (p116). Princen's dimensions of 'distance', then, can be applied to Alcamo et al.'s (2008) 'cause-and-effect chains', Hoff's (2009) 'spatial interdependencies', or the more general term employed by both: 'teleconnections'. As the following arguments demonstrate, the application of these dimensions of distance can usefully expand upon the concept of teleconnections.

Princen (2002) delineates four dimensions of 'distance': 'geography', 'culture', 'bargaining power' and 'agency' (p116). The effect of each of these dimensions is to 'block feedback effects by inhibiting knowledge, information and contextual understanding of the production process feeding one's consumption decisions' (Conca, 2002:144). In other words, as these dimensions of distance increase, they undermine the flow of feedbacks from one end of a teleconnection to the other. Where teleconnections are socio-economic, or problem precipitating, increases in these dimensions of distance create a more difficult governance gap for institutional, or remedial, teleconnections to bridge. Exploring the operation of these particular dimensions of distance sheds further insight into the nature of the governance gap that has emerged for international trade in the deforestation commodities.

Inter-jurisdictional distance

For this study's responses to tropical deforestation, the most pertinent of Princen's (2002) dimensions of distance is 'geography'. In its most straightforward sense, geographical distance could refer to a purely physical measure of the separation of, for example, the consumption of a palm oil-based product from the tract of forest cleared at that palm oil's expense. As this measure of separation increases, then, the connection between that product and its

consequences is likely to be further obscured. Yet the geographical dimension of distance contains the seed of a greater insight, with particular relevance to the environmental problems of international trade. Princen (2002) alludes to this insight when he uses the term 'jurisdictional discontinuity' (p105), which he notes can lead 'policymakers and business people to try to construct [frontier economies]' (p104).

Princen's attention to the crossing of jurisdictional borders is apt. His conclusion is that crossing international borders can actually *facilitate* the adverse impacts of international trade by extending it into jurisdictions where these impacts are less scrutinised, regulated or prevented by governments. In his words, 'from the firm's perspective, the more its transactions cross jurisdictional boundaries [especially international ones], the more it is operating, de facto and de jure, in a frontier economy' (2002:105). The term 'frontier economy' is not fully explained by Princen, but nonetheless his point is clear: paraphrased, socio-economic teleconnections, such as those created by international trade in the deforestation commodities, can conceivably be established in order to create (geographical) distance between consumption and its consequences.

While this is an important point, even more pertinent is the distinction Princen (2002) creates between 'international' economic transactions, such as the teleconnections described directly above, and 'local' economic transactions. Local economic transactions are described as 'embedded in a mosaic of institutional arrangements, some governmental and legally enforceable, some cultural and enforced by societal norms' (p106). This distinction is echoed in general terms by Boyle and Simms (2009), who note that 'markets are a part of life, but they are not the same everywhere', continuing,

> 'They can be vibrant and bustling at street level in towns and villages, binding communities together. And, on a larger scale, they can be faceless, bland and destructive, the economic equivalent of aerial bombing, in which the pilot never gets to see the damage they cause on the ground' (p12).

For responses to deforestation, this distinction raises two questions. The first, and more significant, question is whether responses are either attempting to, or capable of, 'localising' international trade, thereby mitigating its capacity to create teleconnections to deforestation. It could conceivably be argued that the emphasis on transparency and control that imbue this study's responses to deforestation are attempts to *strengthen* feedbacks across geographical distance. A more conclusive answer to this question is suggested – in the negative – later in this chapter, with reference to globalisation as an alternative 'subject of governance' that responses have consciously not pursued, while Chapter 7 partially reverses this conclusion by noting

instances where companies have in fact needed to reconfigure the nature of their international transactions to ensure greater sustainability.

A second question raised by the distinction is more immediately relevant to this discussion of distance: namely, what are the consequences of teleconnections' geographical distance? This question enables the real consequences of the 'geography' dimension of distance to be identified, resting not in the physical separation between two ends of a teleconnection but instead in the crossing of *jurisdictional borders*.

Trade in the deforestation commodities has forged teleconnections stretching across jurisdictions, linking downstream actors to an upstream problem. As a result, the challenge for downstream actors – governments, companies, NGOs – is to devise and implement responses that affect the behaviour of actors – suppliers, producers, etc. – located in other jurisdictions. For one major actor, downstream governments, inter-jurisdictional distance constrains the range of its possible responses, since it cannot directly legislate for the behaviour of these upstream actors as it could have if they had been confined to the same jurisdiction. Downstream, or consuming, governments are therefore left with two broad possible roles, both of which are indirect: it can regulate the behaviour of domestic actors that participate in these teleconnections by importing relevant commodities; and it can engage, negotiate with or otherwise seek to influence the upstream governments that are its peers. Chapter 6 demonstrates perceived constraints on each of these roles, which derive from the need for foreign and domestic support, as well as the constraints contained within international trade law and governed by the WTO.

The inter-jurisdictional distance of teleconnections constrain the regulatory capacity of downstream governments. Simultaneously, however, other actors such as major corporations and NGOs have stepped in to fill this vacuum (Conca, 2002; Walker et al., 2013). The prominence of these actors with respect to tropical deforestation and other environmental problems is desirable, according to some (eg. WWF, 2012; Dauvergne and Lister, 2012), as major companies occupy 'nodes' within relevant supply chains that enable them leverage over the circumstances of upstream production. Yet there are also burdens placed on NGOs as a result of these governance dynamics, which Chapter 5 details. In a speech to the IUCN World Conservation Congress in 2004, Marcus Colchester offered a cynical conclusion on these dynamics, which could pertain to many responses for the deforestation teleconnections:

> "almost without realising it, conservationists have replaced the organs of democracy: we now have consumers instead of enfranchised citizens; we have NGOs in watchdog roles

to replace the executive; we only have recourse to the media as a court of appeal..." (in Moog et al., 2012:18).

Simply stated, then, when teleconnections cross of international borders there are consequences for the governance responses of downstream actors. Downstream governments have significantly reduced regulatory options, and what options remain are still constrained. Companies, especially major multinationals occupying nodes in relevant supply chains, are relatively empowered, though the exercise of their responses face other limitations not yet canvassed by this study (and dealt with in chapters 4 and 5). NGOs are also burdened with additional responsibilities within these dynamics. As a result, international teleconnections that require responses from downstream actors, of which trade in the deforestation commodities is a singular example, are a problems of a different nature than what Biermann et al. (2010) have called 'traditional', single-jurisdiction problems. And it is the inter-jurisdictionality of socio-economic teleconnections, such as trade in the deforestation commodities, that comprises the most crucial dimension of distance, since it shapes and circumscribes the range of institutional teleconnections that can emerge in response to such problems.

For deforestation, and perhaps even more so for other comparable problems, the pace-setter in the 'co-evolutionary race' has been the socio-economic teleconnections connecting downstream actors to upstream problems, *vis-á-vis* their institutional responses. It has been relatively easier to *establish* trades in soya or tropical timber, for example, and for palm oil consumption to be fragmented across thousands of supermarket products, than it has been for responses to ensure – and verify – the disconnection of these commodities from deforestation. Part – but only part – of the reason why downstream actors' responses have lagged has been the often-unprecedented need for these responses to operate over inter-jurisdictional distance.

Transformative distance

There are another two dimensions of distance, not canvassed by Princen, which are nonetheless pivotal for understanding tropical deforestation's teleconnections. The first is the extent to which a commodity is transformed along its supply chains; the second is the complexity of the impacts that comprise the actual environmental problem. Each of these dimensions holds a positive relationship to the 'distance' inherent within these teleconnections, and will here be explored in turn.

Transformative distance emerges from the extent to which a commodity is transformed along its supply chains (or networks), between the form in which it is harvested and the form in which it is ultimately used or consumed. The clarity of the relationship between a set of garden furniture and the timber it comprises is more straightforward than the relationship, to the same

original resource, of a package of paper or a set of cardboard boxes. The difference within these relationships is the degree to which the resource has been transformed to produce differing commodities. In fact, one of the remarkable things about timber is the sheer variety of the products that can be derived from it. As one measure of this variety, the Australian illegal logging regulation lists 4 'chapters' or categories of products to which it applies, ranging from newsprint to cigarette papers to seats to sawn wood (DAFF, 2014c). The transformative distance separating the great majority of these products from the original resource obscure their relationship to that resource, which, to use Princen's language, serves to 'block ecological feedback by inhibiting information flow from extraction to consumption decisions' (2002:119). Two of the other deforestation commodities – palm oil and soya – can be even more challenging to identify at the point of consumption.

For palm oil, as Boyle and Simms (2009) note, there is 'a thread [connecting] chocolate to [oil] palm trees to shrinking rainforests in Southeast Asia, but it is not easy to see' (p112). Palm oil is used for a variety of purposes yet it rarely comprises more than a tiny fraction of any final product. There is also a distinct lack of basic data on which products actually contain palm oil (a gap that the EU's labelling reforms closed for that jurisdiction in late 2014). In Australia, where a more targeted labelling proposal for palm oil failed to gain the Parliament's acceptance, the information on which products contain palm oil is instead emerging from small investigative organisations, such as Palm Oil Investigations (POI, 2014). But palm oil's invisibility in these products nonetheless increases its transformative distance further.

Soybean is subject to even greater transformative distance, in an even more literal sense. The vast majority of exported soy is used as feed for cattle, pigs, chickens and farmed fish (some oil palm derivates have also been used for this purpose, for example as cattle feed in New Zealand during drought years). Almost half of the soybean produced in the tropics is exported to China, where it is used as feed for pigs; a significant share of the remainder is exported to the EU member states, such as Denmark, for the same use. Whether these pigs are slaughtered and consumed either in these countries, or once again exported, identifying the connections to deforestation from the point of consumption requires not just data, but also some work of the imagination.

Hertwich (2012) emphasises the overriding importance of transformative distance when he writes,

> 'If you buy a set of chess figures carved from ivory, you can suspect that you have contributed to killing an elephant. But if you buy a sausage, you cannot know whether the pig that was turned into the sausage was fed soy meal sourced from a farm that had

> just expanded into elephant habitat. The effects on species diversity, however, are similar' (p36).

Put to one side the fact that elephant habitat is probably not the most compelling impact worth considering, given the overwhelming production of tropical soybean in Latin America, rather than Africa or southeast Asia. What remains clear, however, is that identifying teleconnections means not just 'having to visualise long and complex supply chains... [which] are growing in size, number and complexity as the world becomes ever more interdependent' (Boyle and Simms, 2009:112), but also having to understand the substantial transformative distance that products travel along these chains.

Transformative distance merits inclusion as a crucial dimension of distance for understanding the nature of teleconnections. While no metric is proposed here to measure 'the degree of transformative distance', the following working definition will suffice: 'the extent to which a product is unrecognisable or has been transformed, or transfigured, from its original resource(s)'. As a rule of thumb, the greater this degree of transformation – i.e. the greater the distance – then the more difficult it will be to identify problematic teleconnections from the points of consumption. Finally, this concept of 'distance through transformation' might also help to explain why environmental problems with some similar features to tropical deforestation, such as mangrove clearance for shrimp farming in southeast Asia, have not generated comparable governance response. The 'complexity as distance' argument that follows further reinforces the strength of this explanation.

Complexity as distance

The complexity of an environmental problem is also a component of the distance characterising a given teleconnection. Complexity can be found in the lack of immediacy, or lack of visibility, with which environmental impacts are incurred. Tropical deforestation actually allows for a relatively straightforward identification of its impacts; a forest cleared for palm oil production can now be observed from satellites in space. Other subsequent impacts that flow from deforestation, however, such as the biophysical teleconnections of changes to hydrological and climate systems, take much longer to emerge and are usually more difficult both to discern and to attribute.

The socio-economic teleconnections of deforestation, then, sit at the more obvious end of the spectrum (notwithstanding Chapter 1's note on the continued shortcomings of contemporary data). Other environmental problems can be invisible, cumulative and with slow-moving effects, and are therefore typically even more difficult to identify. Examples might include the accumulation of chemical pollutants in waterways, especially those emitted from non-point

sources (as run-off from agricultural fields, for example), or the depletion of invisible resources, such as groundwater, or mobile resources, such as wild capture fisheries. Understanding how complexity acts as a dimension of distance also suggests why responses comparable to those for deforestation have not yet emerged for many of the environmental problems connected to international trade, as well as the mangrove clearance for shrimp farming referred to above. The perpetuation of complexity as a dimension of distance also emphasises the significance of recent efforts to empirically discern, quantify and thereby understand the nature of such problems.

Both the transformative and complexity dimensions of distance make it more difficult to identify relevant socio-economic teleconnections from the point of consumption. The transformative distance of three of the deforestation commodities – timber, palm oil and soya – helps to explain why a governance gap emerged for these teleconnections, which current responses are attempting to bridge. In order to close this gap, this chapter has developed the argument that responses need to locate an appropriate subject of governance. These dimensions of distance are pertinent to assessing that subject. It is telling to note, for example, that responses overwhelmingly *do not attempt* to reduce these distances, by simplifying the paths – both geographical and transformative – that commodities travel. Instead, these dimensions are taken as given by most downstream actors.

Current responses therefore seek to respond to deforestation's teleconnections by simply 'excising' or 'purging' the problematic upstream impact of deforestation, leaving the underlying magnitude, direction and structures of relevant trades unaltered. This chapter will now draw on literatures proposing consumption, globalisation – and briefly – capitalism as alternative subjects of governance, which critique current responses, including for their blindness to these dimensions of distance.

Insights from other literatures

As earlier noted, Newell et al. (2012) conclude that, 'there is a politics to making claims about where governance deficits lie and why and who gets to frame discussions about which alternatives are appropriate, desirable, and viable' (p367). Given current responses' focus, among multiple alternatives, on international supply chains for the deforestation commodities, Newell et al.'s point is that this focus – indeed, *any* focus – has consequences, both in what is (and is not) problematised by responses and in the form that responses subsequently take. The

remainder of this chapter is dedicated to exploring the insights that literatures proposing alternative subjects of governance can provide on current responses to deforestation.

Governing consumption

'Consumption' is one prominent, alternative subject of governance that responses to deforestation could have considered. A definition of consumption is provided by Rees and Westra (2003), who state that 'in physical terms, consumption involves the irreversible transformation of available energy and material partly into useful products, but mainly into waste, in accordance with the second law of thermodynamics' (p110). In turn, Mutersbaugh and Klooster (2010) contend that, 'addressing the environmental consequences of consumption is arguably the single most pressing global environmental concern' (p168). Rees and Westra, continuing on from the above, concur that 'material consumption, particularly by the economically privileged, is the "forcing mechanism" for global ecological change' (p11).

Given the strength of these statements, it seems surprising that Dauvergne would be in the position of needing to note that,

> 'across the social sciences, relatively little research has probed the full complexity and difficulty of 'governing consumption globally', compared with, say, the extensive research on global environmental governance and trade agreements [*inter alia*]' (2010:2).

This expression of frustration reflects a two-fold blindness in the ways that consumption has (failed to) been perceived: firstly, in downplaying or ignoring consumption as a driver of environmental impacts, and secondly, in neglecting it as a driver that actors could or should respond to directly. It is thus worth questioning whether current responses to deforestation fix their attention on either of these shortcomings.

At first blush, it might seem an easy conceptual step from current responses' subject of governance – supply chains of the deforestation commodities – to the *consumption of* those same commodities. Yet within this seemingly small discrepancy, consumption literatures carve out a space for substantial insight. The essential difference between these two subjects of governance is found in what they do and do not problematise, which is in turn reflected in the different ends of supply chains that they focus on. Specifically, current responses problematise the *deforestation* that, through international supply chains, is teleconnected to downstream actors. Responses therefore leave the *consumption* of these commodities ultimately unproblematised. Putting these two strands together, it becomes clear that current responses

are designed – and rely – on the premise that it is possible to purge supply chains of their connections to deforestation without attending to the consumption of these commodities. Whether or not this might be possible is a topic of a schism within consumption literatures, for which responses to tropical deforestation offer a valuable case study.

Numerous authors have wondered whether addressing the *impacts* of consumption is possible without altering consumption itself. Among those, Hertwich perhaps phrases it best, when he introduces Lenzen et al.'s (2012) study with the following:

> 'The fundamental question that remains is whether the current (and increasing) scale of consumption will inevitably cause these threats [to biodiversity], or whether ways could be found to satisfy this consumption but allow affluent consumers to reduce their impact' (Hertwich, 2012:37).

On one side of this schism is a 'camp' that tends to view unwanted impacts – whether environmental or social – merely as 'by-products' or 'externalities' involved in the production of soybean, palm oil, timber and so on. The United Nations Environmental Program, for example, adheres to this characterisation when it states that, 'environmental impacts are the unwanted by-products of economic activities…' (UNEP, 2010:3). Mutersbaugh and Klooster (in Lockie and Carpenter, 2010) contend likewise, identifying one particular type of governance response – certification – as an ally,

> 'Whether we speak of a healthy food system, forest conservation, global warming or mass species extinction, certified production linked to acts of consumption provides one such means to address these global ecological crises' (p168).

This characterisation of the consumption governance problem perhaps finds its zenith in the ideas of 'green growth' and 'the green economy'. These ideas found full favour in the early to mid 2000s, when countries began using the highly conscious language of 'decoupling' economic growth from greenhouse gas emissions (eg. UNEP, 2011). The governance responses to the environmental problem at hand, tropical deforestation, also fit neatly within this camp. As time has passed, however, it appears that efforts to decouple economic growth from emissions have largely gone unrealised. The other 'camp' in this rift is ready to offer some reasons why; reasons that apply squarely to current responses to deforestation.

A. Magnitude matters

Consumption as a subject of governance suggests a perspective in which *magnitude matters*. Simple as this premise seems, it is has often been neglected by other literatures; or where it is acknowledged, it is assumed to be unchangeable (forecast increases in demand are taken as given). Whether alternative subjects of governance either rule out a concern for the magnitude of consumption, or simply dismiss an ability to affect it, they abandon directly targeting, and changing, underlying levels of demand as a possible approach to remedying environmental problems.

To illustrate this point, consider the statement from Bennett and Balvanera (2007) that, 'in the coming decades, how we meet increased demand for provisioning ecosystem services will determine the conditions of the future' (p192, citing Sarukhán, 2006). In order to interpret this claim, however, a preliminary question need first be answered: namely, is 'increased demand' inevitable, or could 'reducing demand' be targeted as a policy objective? This preliminary question is, in fact, the main point for one 'camp' on consumption. For amid forecast increases in demand for fossil fuel energy, food production, biofuels, as well as the deforestation commodities, an essential starting point seems to be an exploration of whether current and future levels of demand could be reduced, and if so, how.

Indeed, some authors with precisely this point in mind have found fault with current responses to tropical deforestation, noting that the magnitude of demand for commodities is generally left unaddressed, and accordingly, unproblematised. For instance, writing on the FSC, Moog et al. (2012) pose the following dilemma:

> 'Forest movement activists hoping to decrease global consumption of timber and wood products, and to significantly slow rates of deforestation in the tropics, have had to ask themselves whether the gains made by somewhat improving forestry standards, especially in Northern forests, *are ultimately worth the costs of legitimating*, through their participation in market-based schemes like the FSC, ... *ideas of protection through consumption*, rather than protection through clear, measurable decreases in hectares lost...' (emphasis added; p22).

The sensitivity of such an attention to the magnitude of consumption, which to some introduces the spectre of *limits*, should not be underestimated. For example, in their examination of the RTRS and RSPO, Schouten et al. (2012) identified tensions between warring ideological viewpoints, leading these authors to conclude that,

> '...in essence we see the same pattern occurring [in the RSPO] as in the RTRS; discourses that are included in the RSPO have essentially a reformist view on sustainable development, and more radical views, that suggest changes at system level and a fundamentally different relationship between economy and ecology, are excluded...' (p48).

Specifically in relation to the decision to include or exclude magnitude as a specific concern, Shouten et al. (2012) note that,

> '...the participants of the [RTRS'] Principles and Criteria and Development Group were able to reach consensus on every aspect of the document, *except the expansion of soy cultivation*' (emphasis added; p47).

In a similar vein, this trait has been noted in other responses beyond NGO-industry Roundtables. For example, it is the exclusion of any magnitude-based concerns from corporate sourcing policies (and other corporate initiatives) that led Dauvergne and Lister (2012) to the following, parallel, conclusion: 'Fundamentally, big brand sustainability governance on its own will not – indeed, it cannot – achieve global sustainability. Put simply, the planet cannot sustain the impacts of the big brand business model' (p43). These authors continue,

> '[Companies'] aim is to leverage sustainability for business growth while focusing on reducing the intensity of environmental impacts. Consequently, the on-the-ground results of big brand efforts have not been able to reverse – or even measurably slow – the net environmental consequences of rising global consumption on ecosystems such as the global climate, tropical forests, or oceans...' (ibid.).

The nuance of a concern for magnitude can be demonstrated as follows. At the time of writing, multiple producer countries have explicitly stated targets to *increase* their production of the deforestation commodities, with Indonesia intending to export 40 million tonnes of palm oil by 2020 (Hadinaryanto, 2014). Unrealistic as this target might be (it takes 3-4 years before newly-planted trees begin producing fruit), the Indonesian Government's target creates a quandary given the impacts on forests that previous expansions have incurred (ibid.). Broadly speaking, there are two approaches to resolving that quandary, but it depends on the nuance of the question that is asked. The following 'model' permutations of such a question reveal the different priorities that emerge in either the absence, or presence, of a concern over magnitude.

> Question 1. How can increased demand for palm oil production be met *while minimising the impact* on southeast Asia's tropical forests?

Versus,

> Question 2. *By how much* can production of palm oil increase without incurring further impacts on southeast Asia's tropical forests?

The first of these questions takes it for granted that increased production of palm oil must occur, with concern over 'minimising the impact' on forests emerging as a secondary priority. In contrast, the second question prioritises preventing further impacts on southeast Asia's forests by instead orienting towards the extent to which increased palm oil production is possible within compromising that priority. Within a global paradigm that lauds, unquestioningly, increases in economic growth, international trade and the production of nationally-valuable commodities, the first of these two 'model' questions is the one that policymakers and other actors most commonly choose to answer. Indeed, Indonesia itself provides evidence of that outcome, by announcing its intention to clear an additional 14 million hectares (140 000 sq km) of forest by 2020, in large part to allow the expansion of palm oil plantations (Butler, 2014b).

This study's responses to deforestation are also aligned with the first of these two questions, making them 'magnitude-blind'. In fact, some responses such as the RSPO even hold the objective of 'increasing consumption of palm oil', albeit of a sustainable type (RSPO, 2014a). As Jacquet et al. (2010) note in a comparable case, however, 'simply creating demand for an eco-certified product is not enough unless there is a concurrent decrease in demand for other [versions of that product]' (p10). Even if the RSPO could realise its objective to increase sustainable consumption of palm oil, that commodity's role in driving deforestation could remain unmitigated, or even worsened. In the absence of an attention to magnitude, the two are not mutually exclusive.

The magnitude of consumption is important, and may be crucial, for attempts to ameliorate environmental problems such as deforestation. This discovery leads to a simple approach to deforestation: develop policy responses to *consume less* of the commodities that have been implicated in tropical deforestation. The spirit of such an approach would find support from the conclusions of a rigorous study of resource efficiency in Asia and the Pacific. In that study, Schandl et al. (2011) write that 'in the light of already very high resource use globally, dematerialisation – that is, an absolute reduction in resource use – needs to be achieved' (p2). Similarly, some of the empirical research presented in the previous chapter echoes this sentiment, as Wiedmann et al. (2013), for example, conclude:

> 'Rather than a mere decline in intensities of use and impact, true dematerialisation has to mean an absolute decoupling of impacts if a growing world population is to make

> ends meet on a finite planet. The [material footprint] indicates that this goal might be harder to achieve than previously thought as global affluence grows' (p5).

The connection that Wiedmann et al. (2013) find between global affluence and material footprints further underlines the significance of the total magnitude of consumption, rather than just the relative intensity of that consumption. While reducing total consumption seems to be a logical endpoint for this discussion, however, one further possibility would be to attend to the magnitude of consumption – or production, for that matter – by reducing it in the interim, *until such time* as it can increase without exacerbating environmental problems.

Pointedly, then, none of the current responses to tropical deforestation explicitly propose or are designed to achieve a reduction in the consumption of the deforestation commodities, either temporarily or permanently. (Although it is at least possible that some might have this effect, as this chapter later notes with reference to the globalisation literature.) As such, current responses are magnitude-blind, a choice which foregoes one clear option – reduced consumption, or equally, production – to avert the impacts that the deforestation commodities will have on tropical forests. Forgoing this option is particularly risky, or optimistic, both in the context of planned expansions of production of these commodities, and in conjunction with the possibility of displacement and rebound effects, to which this critique now turns.

B. The displacement effect

A second insight from consumption literature is the concept of 'displacement', through which attempts to resolve a given problem merely transpose that problem onto other places, other resources, or push it forward into the future. Thus although a problem can appear to be resolved, this is more appearance than reality. As Princen states, 'displacement results in the appearance of solutions when, in fact, the problem is only shifted to other media, other ecosystems, or other, usually unrepresented, peoples' (2002:129).

This chapter has already noted one example of displacement, through Yu et al.'s (2013) findings on the areas of foreign cropland used by the 'rich countries' of the EU, US and Japan, as well as the 'fast growing emerging economies' of China, South Korea and others (p1185). In Yu et al.'s own words,

> 'This pattern reflects that rich countries *displace* land from other countries to meet their own consumption while the emerging economies such as the Russian Federation and Brazil absorb their demands on land... Our results show that 47% of Brazilian cropland and 88% of Argentinean cropland are used for consumption in other countries, mainly

> in the EU and China. Our results also show that China *displaced* 5 million hectares of cropland in Brazil, mainly for soybeans…' (emphasis added; p1184-5).

As Yu et al. (2013) demonstrate, then, displacement can occur geographically, and indeed, geographical displacement can also occur at multiple scales. Within the tropics itself, it is already clear that soybean production has been displaced from the humid tropical forests of the Amazon to the dry tropical forests of the *cerrado* in northern Argentina and southern Brazil, even though pastureland provides a viable alternative (Macedo and Davidson, 2014; WWF, 2014). It can be argued, of course, that the environmental consequences of clearing *cerrado* are preferable to clearing further areas within the Amazon, and indeed that this displacement might be an example of Boucher et al.'s (2011) 'guiding' of deforestation to 'places where it does the least damage' (p98). Without disputing this point, however, the concept of displacement provides a lens to confirm that the root problem in this case (the impacts of clearing land to increase soybean production) has not been resolved, merely displaced.

Geographical displacement can also be understood at the scale of an individual land 'concession', or forestry management unit (FMU). This is the scale at which sustainability schemes certify production of forestry and agricultural commodities. Recent evidence from Peru (Finer et al., 2014) suggests that high-value timber is being illegally extracted from beyond timber concessions, while in many cases the same timber species are left unharvested within those concessions. This may allow for the later harvesting of these legal species, amplifying the impacts of selective logging. Auld et al. (2008) have suggested that, even in the absence of illegal practices, sustainability schemes could generate a similar dynamic, with producers parcelling up their land to adhere to the requirements for certification within given concessions while displacing problematic practices to adjacent forests. With reference to the FSC, these authors write:

> 'Moreover, there is a perceived trade-off between the conservation gains occurring on FSC-certified lands and the landscape-level patterns of protection. Without a commensurate reduction in demand for forest products, too much protection on an individually certified tract, which leads to reduced outputs, can mean higher pressure for extraction on non-certified lands. This logic has led to arguments that reduced standards for certified plantations may help conservation rather than hinder it' (Auld et al., 2008:199).

With a landscape parcelled up to facilitate the certification of at least some concessions, then, geographical displacement can mean that overall levels of impacts remain unmitigated.

Non-geographical forms of displacement also exist, such as the substitution of one commodity for another. Following the restrictions on expanding soybean production within the Amazon, for instance, another commodity might come to be substituted to fill soybean's end-markets, especially if the expansion of soybean into the *cerrado* was similarly constrained. Given that the predominant use of Brazilian soya is as animal feed within China and the EU, one alternative commodity being touted for this purpose is wild-caught fish. If livestock producers in those two jurisdictions instead began to substitute fishmeal as feed for their animals (themselves becoming more numerous as demand for meat escalates), then the environmental burdens previously experienced by tropical forests could be displaced onto wild-capture fisheries (Lambin and Meyfroidt, 2011). Crucially in this example, such a development is likely to go unnoticed, or at least unproblematised, by those actors who are currently prioritising tropical forests.

Further, displacement can occur through indirect mechanisms, making the transposition of impacts especially difficult to detect. Such mechanisms include multiple economic parameters, including exchange rates (Richards et al., 2012), appreciation in land prices (Richards et al., 2014), as well as commodity prices. To provide an example of the complexities involved, consider the consequences of a (hypothetical) contraction in logging activity, which – at least ostensibly – could result from the illegal logging laws now implemented by the US, EU and Australia. Reduced supply of timber could conceivably result in increased timber prices, which in turn could provoke the substitution of other products for timber for use as building materials, for example. Multiple possibilities then emerge. While the effect of price increases is likely to be a reduction in timber consumption (satisfying a concern with the magnitude of production), the environmental consequences of this shift may still be either positive or negative, depending on both the product that is substituted (Auld et al., 2008; Lambin and Meyfroidt, 2011), for example steel, plastic or bamboo (Dauvergne and Lister, 2011), as well as any consequent behaviour change (if packaging material becomes so expensive that more is recycled and reused, rather than discarded). Alternatively, or even concurrently, one possibility is that increased timber prices simply induce supply from other sources, encouraging procurement from locations with weak controls on timber extraction.

As these examples demonstrate, the displacement effect is highly relevant to current responses to tropical deforestation. From within their focus on humid tropical forests and a handful of commodities, these responses are incapable of preventing all possible displacements of the impacts currently borne by tropical forests. In the globalised context of economic activity that they operate within, expecting more from responses is probably unrealistic; as Boucher et al. (2011) conclude, 'there is no way to prevent it from happening entirely' (p98).

What then is the antidote to these possibilities of displacement? A later section in this chapter will explore how the context of globalisation is left unquestioned, and therefore unproblematised, by responses and suggest the need for further attention to that topic. Yet more immediately, some authors have emphasised the importance of a 'holistic perspective' (Boons et al., 2012) in order to 'safeguard against inter- and intra-industry spill-overs, displacement, and segregation of markets' (p134). A starting point for a more holistic perspective is surely, as this study attempts to do for responses to deforestation, to build a broader lens, or field of view, for a given topic, allowing as many relevant elements as possible to be simultaneously scrutinised. Indeed, this study's empirical chapters will go on to reach conclusions that are only possible through such a lens (after Chapter 2 first establishes that lens). It is a further step from a holistic *analysis* of a given topic, which can recognise displacement, to a holistic *governance* of that topic, but this section's contributions on the importance of both the magnitude of consumption and the possibility of displacement apply equally to that more challenging task (which will be explored in chapters 4 and 5, especially). A final contribution from consumption literature is the rebound effect, which is now introduced.

C. The rebound effect

Consumption literature's third insight for this study is the concept of a 'rebound' effect. A rebound effect occurs when production of a given product or commodity becomes more efficient, leading in turn to *higher* overall production and associated impacts. This outcome usually occurs through the lower prices created by efficiency, which in turn can create further potential uses for it. A classic example of the rebound effect (also known as the 'Jevons paradox'; Lambin and Meyfroidt, 2011:3468) is the dramatic increases in fuel efficiencies of vehicles throughout the 20th century, which stimulated both greater production of vehicles and encouraged each to travel further distances, which together meant that the *total* volume of fuel used by all vehicles dramatically increased, despite the fact that fuel use by a given vehicle over a given distance had declined.

Rebound effects are relevant for tropical forests too. Agricultural intensification, which entails improvements in the efficiencies, or intensities, with which production occurs, can result in increased profitability, leading to increased aggregate production, land use and therefore impacts on forests from that production. As Lambin and Meyfroidt (2011) note, for cases 'involving cash crops for rapidly expanding global markets', which characterises all of the tropical deforestation commodities, 'agricultural intensification [has] encouraged more cropland expansion, as observed for soybean in Brazil and oil palm in Indonesia and Malaysia' (p3468).

Finally, there is a second way in which a rebound effect can work that is highly relevant for Amazonian soy production. This effect does not stem from the crop's production efficiencies, though, but rather from perceptions about its implication in deforestation. As Barona et al. (2010) write, 'the soy industry is expanding rapidly in Brazil, supported by the notion that they are not causing new deforestation; the blame continues to be placed on cattle ranching' (p8). Under an assumption of false innocence, then, soy production has been stimulated, leading to a situation where soy production 'may have displaced [cattle] pastures further north into the forested areas' (p8). Greater soy production has also led to the displacement of soy into the *cerrado*, as recently noted, as well as causing an appreciation in land values within the Amazon that in turn drives further deforestation (Richards et al., 2014). Clearly, the dynamics of Amazonian deforestation are complex, and an over-simplified understanding of these dynamics has so far allowed production of soya to expand significantly, leading to continued pressure on the region's forests.

For this study's subject matter, what are the implications of these three contributions from the consumption literature? The neglect by current responses to deforestation of the magnitude of timber, palm oil, beef and soya consumption is premised on the possibility of purging that consumption of its problematic connection to deforestation *independent of* the quantities demanded. This means that even if the impacts of *a less than total fraction* of consumption – say, the fraction that occurs in 'eco-sensitive markets' – are effectively purged of this connection, this does not necessarily translate into a reduction in the overall connection between these commodities and deforestation. With no reduction in the total magnitude of consumption, production of these commodities can continue to expand, driving impacts on forests, *even if* a fraction of consumption can be absolved from direct implication. In other words, neglect of the magnitude of consumption of the deforestation commodities means that, even if responses are successful in verifiably decoupling some consumption from deforestation, they may not yield commensurate respite for tropical forests.

Displacement muddies this picture, and darkens the worst-case scenario, even further. Even if consumption in some jurisdictions is decoupled from direct implication in deforestation, the impacts on tropical forests may simply be displaced, through shifting those impacts to other locations (within or beyond the tropics, outside of certified areas), onto other resources (wild-caught fish for soya, or concrete for timber), or somewhere and onto something else entirely. Further, any rebound effects that lead to greater demand for the deforestation commodities – by virtue of their 'proven' innocence in tropical deforestation, for example – could in turn create an amplification of these displacement effects. The term 'the shadows of consumption' (from Dauvergne, 2008) is an attempt to capture the 'many indirect and hidden

spill-overs of supplying and replacing consumer products' (Dauvergne, 2010:3). As this chapter has shown, in a context where magnitude is assumed not to matter, displacement and rebound effects undoubtedly contribute to these 'shadows'.

One clear limitation of current responses, explored at length in Chapter 4 and returned to empirically in Chapter 7, is their only *partial* coverage of internationally-traded deforestation commodities. Indeed, with the exception of soy, a majority of each of these commodities is ultimately consumed within the country of production, leaving current responses – focused on international trade – with an even more partial coverage of total production. One possibility for displacement therefore becomes obvious: problematic versions of commodities purged from supply chains leading to certain jurisdictions could be displaced towards undiscerning end markets, whether within the country of production or to other importing jurisdictions. Indeed, empirical evidence shows that segregation of 'sustainable' from 'unsustainable' is already occurring with respect to trade in timber (ITTO, 2010; Cashore and Stone, 2012) and palm oil (Sustainable Palm Oil, 2013), for example, while China – the world's largest importer and consumer of soybean – has not enacted any comparable responses to those in this study. This evidence, backed by the three contributions from consumption literature, supports Dauvergne's contention that 'unsustainable production... is increasingly masking itself as sustainable consumption' (2010:2). However, such trends are only discernible from a holistic perspective of the type espoused by the consumption literatures, and aspired to by this study.

Two further points warrant mentioning here. Firstly, even the proven presence of displacement effects would not imply that current responses to deforestation are incapable of alleviating *some* measure of the problems caused in tropical forests by commodity production. Indeed, as Boucher et al. (2011) concede, 'there is no way to prevent [displacement] from happening entirely; the point is to minimise it, restrict it, and guide it to places where it does the least environmental and social damage' (p98). For the reasons outlined in Chapter 1, the priority of protecting humid tropical forests from further clearing is sound. However, downstream actors should not fool themselves by the illusion that this exonerates their consumption of the deforestation commodities, even at present – and let alone increased – levels. An inability to control the displacement of environmental burdens means one of three things: firstly, accepting Boucher et al.'s (2011) challenge and seeking to 'guide' displacement to less valuable places, as to some extent is currently occurring; secondly, acknowledging the importance of the magnitude of consumption and attempting to reduce environmental burdens in totality, therefore obviating displacement; or thirdly, attending to the structures of international trade that *enable* the displacement of these burdens in the first place. This latter meaning is elaborated on below, with reference to globalisation literature.

Given these options, it becomes clear that current responses are unlikely to be perfect remedies capable of avoiding perverse outcomes. Instead, downstream actors' responses may need to be conceptualised more as part of a *patchwork* set of solutions, a topic that Chapter 4 examines in detail by introducing the question of whether responses are mutually supportive or inhibitive.

A second point to make here is that consumption literature itself offers less than comprehensive guidance in seeking to resolve tropical deforestation. Indeed, consumption's strength is also its weakness and Achilles heel, since in identifying the critical importance of magnitude it inevitably sacrifices some potential to propose practicable governance responses at scales smaller than the whole. The way in which this puzzle has been resolved within that literature, as outlined briefly below, actually lends support to the narrow delineation of a handful of commodities that characterise current responses to deforestation. If environmental impacts ultimately cannot be disconnected from total magnitudes of consumption, the task of governing consumption becomes less tractable as it inflates to encompass – at its extreme – the 'full global balance of natural resources' (Auld et al., 2008:204). And if this is consumption's diagnosis, then there can be only one justifiable guideline in responding: namely, whatever the problem, 'consume less'. Authors accept the need for more useful solutions than this, a challenge that (Kastner, Kastner, et al., 2011) capture succinctly when they write of needing to link 'production-related environmental pressures… to consumption patterns in a relevant way' (p1032).

Through their targeting of a narrow set of teleconnections, current responses to deforestation cogently make this link; doing so much more rapidly and effectively than did decades of inter-governmental negotiations, in comparison. Breaking down the all-encompassing category of 'consumption' into some of its constituent parts provides a pathway to actually enact responses. Spaargaren (2011) encourages such a targeted approach when he urges,

> 'researchers and policy makers to focus on clusters or sets of consumption practices that are situated within a limited number of 'domains' spanning everyday life' (p815).

For 'domains', Spaargaren lists consumption categories such as 'food, clothing, mobility, leisure, housing and personal care'. Other categories enable stronger application to the concerns introduced over the last two chapters, however, such as 'the consumption of internationally-traded commodities', or more specifically, 'consumption of the deforestation commodities'.

Current governance responses, then, have successfully identified a set of teleconnections warranting remedial attention. At the same time, as this section has elucidated, the challenge for

current responses is not to suffer from their chosen neglect of the magnitude of consumption, which could potentially be compounded by rebound effects, and the partial neglect – but also partial inevitability – of displacement. In addition, globalisation and capitalism literatures both emphasise further subjects of governance that are being neglected by current responses, which again may generate consequences.

Governing globalisation and capitalism

Current responses take international supply chains in the deforestation commodities as their subject of governance. As Newell et al. (2012) noted, 'there is a politics' to this decision (p367). Additionally, there are also consequences that flow from the neglect of alternative subjects of governance, such as consumption, for example.

Globalisation provides a further alternative subject of governance. That is, rather than targeting international supply chains for specific commodities, downstream actors could have responded to their connection to deforestation through attention to the processes of globalisation that enabled those connections to emerge. This section explores what globalisation offers as a subject of governance and illuminates the dangers to current responses from ignoring it.

It is first important to understand what the processes of globalisation entail. According to Conca,

> 'In contrast to the more popular (but ultimately incomplete) view of globalisation as more frequent cross-border transactions, I stress changes in the underlying organisation and logic of production in the world economy. Two particularly important changes… [are] the proliferation and lengthening of genuinely global commodity chains and the continuing shift towards so-called post-Fordist modes of production…' (2002:136).

While 'more frequent international transactions' might provide an 'incomplete' comprehension of globalisation, however, this section nonetheless includes it as an important *aspect* of the complete picture. Thus there are three aspects of globalisation which warrant attention here, characterised as: 1. The greater frequency of international trades, 2. the increasing geographical distances that supply chains travel, and 3. the continuing shift towards 'post-Fordist' modes of production. The concept of 'distance' developed earlier in this chapter enables Conca's 'proliferation and lengthening' (p136) of supply chains to be understood as geographical distance; and as that earlier section noted, other distances – such as transformative distance – often increase in tandem with geographical distance, although they can also increase independently. Each of these three aspects are important for comprehending the insights that globalisation can offer as an alternative subject of governance.

Another interpretation of the empirical research that opened the previous chapter could be build around the implication in environmental problems not just of specific supply chains, but rather of international trade *in general*. As Weinzettel et al. (2013) write, 'the translocation of environmental pressures through international trade (e.g., via land use displacement) has only recently received attention' (p437). What has recently been documented confirms not only Bennett and Balvanera (2007) statement that 'globalisation... allow[s] access to new products and new locations in which to produce them' (p194), but also Lambin et al.'s claim that 'rapid land-use changes often coincide with the incorporation of a region into an expanding world economy' (2001). The final piece of this narrative is Wiedmann et al.'s conclusion that 'the current level of national material consumption has only been made possible through a record increase in international trade' (2013:5).

Thus greater international trade has tended not to be benign; it not only allows access to new opportunities but incurs significant impacts, such as tropical deforestation, in claiming them. Yet it is *only* by claiming these opportunities that societies (primarily in the wealthy world, but also in emerging economies) have enabled current levels of prosperity. These revealing statement about international trade have led the founder of the Tropical Forests Trust, a forest consultancy that has worked with some of the world's largest companies, to conclude that, 'Globalisation is the [lowest common denominator], *the principal driver of deforestation*, not soy or rice farmers, cattle ranchers, palm oil plantation or forest managers' (Poynton, 2013; emphasis added). In more general terms, Sachs's (1999) comment holds true: 'the globalisation of goodies is accompanied by the globalisation of nasties' (p75). What these perspectives propose – implicitly and sometimes explicitly – is that responses to a problem such as tropical deforestation should take globalisation, or international trade in shorthand, as a subject that itself warrants governance.

For many of the actors this study refers to, both downstream and upstream of deforestation supply chains, the idea of governing international trade is highly challenging, especially if it could entail the imposition of constraints on international transactions. This idea, of restricting trade, is directly contrary to the objective of further promoting and liberalising international trade institutionalised by actors from the WTO and the International Monetary Fund, to trade agencies, departments and representatives at the national level, and within large companies and even many NGOs. In short, most actors are united in their wholehearted support for the further expansion of international trade, a central aspect of globalisation.

Yet within the context of this general support for international trade, however, some current responses for deforestation *do* limit trade in *versions* of specified commodities. For example,

illegal logging laws and public procurement policies are designed to limit trade in *illegal* timber products, while company sourcing policies limit trade in *unsustainable* versions of the deforestation commodities. Perhaps it is these precedents that embolden Lenzen et al. (2012) to suggest 'suppressing trade in at-risk commodities [found to be impacting on biodiversity]' (p111). But the smallness of this logic step, from limiting trade in problematic *versions* of commodities to limiting trade in certain commodities, full-stop, belies the tenuous acceptance that even the former of these objectives holds (as Chapter 6 explores at length).

Other authors propose even more ambitious remedies using globalisation as a subject of governance. Lambin and Meyfroidt (2011), for example, propose 'new forms of global governance linking trade with environmental protection' (p3471). Such a proposal is fundamentally aligned with the empirical evidence that has recently emerged on the impacts of trade, yet it also depends on effectively problematising international trade *itself*, including within the minds of governments and international organisations. And although current responses could be interpreted as demonstrating, on the one hand, that specific trades *have* been problematised, an alternative interpretation is that any momentum that might emerge behind governing trade as a whole is likely to be channelled into the more fragmented task of governing specific trades associated with specific impacts. As Chapter 2 argued, the problem of tropical deforestation has provided a lightening rod for emerging concern over the impacts of international trade, making current responses to it an ideal case study. However, as this chapter has argued, the subject of governance taken by these responses also suggests that neither processes of globalisation, nor volumes of international trade, have been understood by downstream actors as a worthy focus. (Chapter 7 will offer some modest exceptions.)

For other environmental problems, such as greenhouse gas emissions, partial responses – i.e. based on a subset of international supply chains – are not viable. Responding to emissions from international trade therefore needs to be realised comprehensively, something that, as Cristea et al. (2013) note, has so far 'been overlooked' in international climate negotiations and agreements (p153). Further, when in 2012 the EU imposed a tax on all international aviation, including flights that either originated or terminated outside of Europe, there was a clamour from other countries, with some (such as the US and China) explicitly forbidding their airlines from paying this tax (ibid.). As a result, the tax was removed in 2013. (The EU has more recently announced that it would monitor emissions from shipping, though due to start only in 2018; ICTSD, 2014d.) This experience, combined with the institutionalised and generally-accepted promotion of trade by powerful global actors, suggests that greater international trade is unlikely to gain traction as a subject of governance within the present context. To the extent that this prevents responses from targeting a deeper – or 'the principal' (Poynton, 2014) –

driver of deforestation, their contribution to resolving that problem will inevitably be circumscribed.

The second aspect of globalisation to which Conca refers is the lengthening of international supply chains. As Wiedmann et al. (2013) note, 'the increasing spatial separation of production and consumption in global supply chains leads to a shift of resource use and associated environmental pressures among countries' (p1). Similarly, Lenzen et al. state that 'in today's increasingly globalised economy, international trade chains accelerate habitat degradation far removed from the place of consumption' (2012:109), and Kastner et al. (2011a) note 'that benefits in one place are intrinsically tied to costs and risks in other, often distant, places' (p955).

These quotes beg the question of whether the lengthening of international supply chains is *inherently* problematic. Princen's concept of 'distance' suggests how this might be so; namely, if globalisation increases 'distance' across the dimensions of geography, culture, bargaining power, agency – and, as I've argued, transformative distance and complexity of impacts, then it can actively obscure the connections between ends of international supply chains. With these connections obscured, problems can be incurred and perpetuated more readily, both intentionally and unintentionally. Further, inter-jurisdictional distance shapes the ability and responses of downstream actors in ways that lessen the regulatory power of governments (Vermeulen and Kok, 2012), while imposing burdens of monitoring on NGOs.

These multiple dimensions of distance explain how globalisation can exacerbate problems, leading Challies et al. (2014) to the idea that 'since feedbacks function in tightly coupled social-ecological systems, they may be enabled through either reducing distance between production and consumption... for example, by re-localising aspects of globalising production-consumption systems' (p36). Importantly, however, none of the current responses to tropical deforestation attempt to shorten these distances *directly*, although sustainability schemes (certification and Roundtables) may do so indirectly by seeking to provide oversight along the length of supply chains. Similarly, illegal logging laws and biofuels frameworks are likely to increase domestic production of relevant commodities, again with the indirect effect of shortening supply chains. These responses are therefore addressing, albeit indirectly, the dimensions of distance that make globalisation problematic.

Casting a glance beyond tropical deforestation, governance responses for other international supply chains have more deliberately engaged with some of these dimensions of distance, as Princen (2002) notes when he recognises the potential for international trade to forge 'alternative trade arrangements between Northern food cooperatives and Southern

communities of growers' (p129). These arrangements, Princen writes, can effectively compensate for high geographic distances by 'making cultural, bargaining and agency dimensions of distance... quite low' (p129). Princen could equally refer to the FairTrade sustainability scheme, as well as other, more niche schemes, which deliberately limit some distances – such as discrepancies in bargaining power – through mechanisms such as a minimum guaranteed price for producers.

Thus the worst case scenario, where 'exploitation of superior economic might... distort[s] power relationships with suppliers' (Boyle and Simms, 2009:114) is not inevitable. Responses are beginning to be devised, albeit in very select cases, which prevent international transactions from being 'faceless, bland and destructive, the economic equivalent of aerial bombing, in which the pilot never gets to see the damage they cause on the ground' (Boyle and Simms, 2009:12).

These examples provide an insightful comparison with current responses to tropical deforestation, for although there are clear similarities – including specific supply chains as a shared subject of governance – no responses to deforestation have yet emerged which aspire to shorten the distances of globalisation; there has been no attempt to simplify and shorten relevant chains. Instead, current responses to deforestation attempt to retrofit new values such as transparency to existing chains *without amending their existence or length*. While Chapter 7 will note several modest exceptions, where actors have either sought to shorten these distances – or found that they had to in order to ensure new values were reflected – the germane question for this chapter is whether responses are limited by their neglect of these distances.

The final aspect of globalisation, again following Conca (2002), is the 'shift towards post-Fordist modes of production' (p136). By this he refers to changes in the structure of commodity chains, which global value chain theory has done an exemplary job of demonstrating, with power increasingly concentrated in 'nodes' and production increasingly rearranged to allow flexibility for the actors within those nodes. For the multiple suppliers feeding into these nodes, this flexibility is experienced through uncertainty and intense cost-cutting pressures. For the tropical deforestation commodities, the highest point of *concentration* resides with the major trading companies, such as Cargill and ADM; on the other hand, the highest point of *leverage* (i.e. Boyle and Simms' 'economic might') often resides instead with major retailers and manufacturers at the downstream end of chains (see Brack and Bailey, 2013, for an overview of relevant chains).

The leverage of downstream retailers, manufacturers and supermarkets has afforded some productive opportunities in responding to the deforestation commodities. These opportunities are characterised as follows by Dauvergne and Lister: 'The supply chains of the world's largest

brand companies... offer vital leverage points to produce the range, response, and coordination necessary for more systemic global market changes' (2012:42). Others, including Conca (2002) and Butler and Laurance (2008) echo this refrain. Thus this aspect of globalisation, while it has the exacerbating effect of further increasing some dimensions of distance, also provides a viable and effective target for NGOs and others seeking to improve sourcing policies, including for some deforestation commodities such as paper (O'Rourke, 2005). These dynamics are explored at length in Chapter 5.

There is, however, one questionable outcome of flexing the muscle of major companies' sourcing policies. Because these policies are being enacted – or in some cases, demanded – by already powerful actors along supply chains, it is 'producers [and intermediaries] in the economic South who have to conform to an externally imposed regime of monitoring, while the often-questionable economic practices of distributors in the economic North are not subject to any parallel process' (McMurtry, 2009:35). Though this quote from McMurtry relates to the coffee, tea and chocolate (and now other products) sold by the label FairTrade, comparable dynamics can be observed in sourcing policies for palm oil, timber, soybean and beef. Further, the 'questionable practices' of the economic North could well include its magnitude of consumption, suggesting the possibility that current responses' subject of governance may be deliberately chosen to obscure, or neglect, these sources of the problem.

This dynamic creates a dilemma, for if responses to tropical deforestation *do* exacerbate the power biases inherent in contemporary international trade by increasing bargaining distance, yet they *are* effective in mitigating some tropical deforestation, which outcome is the more important? And which actors are to decide? Suffice it to note that any change to deforestation rates as a result of these policies would not be the sole change occurring; through flexing their economic muscle these companies may well be entrenching their position as the arbiters of the values that are paramount within international supply chains.

To conclude, consideration of globalisation as a possible subject of governance necessarily requires an understanding of the three aspects that comprise it. Current responses neglect all three, though they do limit trade in problematic *versions* of specified commodities and they may also unintentionally shorten some dimensions of distances within supply chains. The silver lining of this exploration of globalisation *vis-á-vis* current responses is that it reveals that continuing shifts in modes of production, while exacerbating economic imbalances, have also exposed new possibilities for leveraging better governance.

One final subject of governance – capitalism – warrants very brief consideration as a last alternative subject of governance. For some authors, the processes of globalisation or

consumption still fall short of acknowledging a deeper system driving environmental impacts; further scrutiny is required of capitalism itself. In a piece entitled 'the elephant in the room', Newell (2011) surveys the environmental changes sweeping the planet and states:

> 'Hegemony is never complete, but the extension and deepening of the logics of capitalism to new geographical and ecological areas of the planet appears to be unprecedented. This process needs to be adequately understood as a political and economic phenomena with important social and environmental consequences of interest…' (p6).

Newell continues that, if the 'extension and deepening of the logics of capitalism' continues,

> 'The *governability of capitalism* then becomes key… What forms of regulation and governance might be appropriate, effective and enforceable for harnessing the power to do good while restraining the destructive potential of global capitalism?' (emphasis added; p6).

Appropriating a phrase from Linnenluecke and Griffiths (2013), capitalism could perhaps be defined as a driver of 'the transformation of the Earth's resources into wealth through industrial activity' (p382). This would imply that other subjects of governance, such as consumption and globalisation, are ultimately *enabled* by capitalism, meaning that responding to contemporary environmental problems requires attention to capitalism itself. In this light, the three aspects of globalisation begin to appear as the consequences of something deeper – capitalism – rather than independent processes.

Newell's call for attention to the 'governability of capitalism' is a daunting one for research, let alone practice. Yet to the extent that international trade in the deforestation commodities is an expression of capitalist logic, then responses to deforestation can be understood as attempts to enact governance of that trade. This study can therefore be construed as an exploration and examination of how downstream actors have chosen to attempt that governance project, by focusing on a particular subset of capitalist activity (international trade) as well as a particular subset of that trade (the deforestation commodities). This claim is not emphasised, nor proposed here unequivocally. Yet regardless of its potency, the more immediate conclusion to draw is this: that if Newell is right in identifying capitalism as 'the elephant in the room', then current responses, focused as they are on the comparatively narrow subject of specific international supply chains, fail to identify, let alone acknowledge and respond to, the deeper driver of that problem.

Conclusion

This chapter buids on the previous chapter's survey of empirical literature on the connections between current patterns of international trade and specific environmental problems. For tropical deforestation, as with each of these problems, a governance gap exists, whereby its drivers have outpaced the responses to it. Current responses to deforestation are an attempt to remedy, or bridge, this gap, which persists despite responses to deforestation being both more numerous and innovative than those for other problems. The 'teleconnections' concept offers a fitting characterisation of the spatial interdependencies between activity, such as consumption, in one location and consequences, such as deforestation, in another. Two forms of these teleconnections, 'socio-economic' and 'institutional', allow this chapter to accurately depict and describe the nature of the governance gap that exists for deforestation.

Yet a crucial question then emerges: what is the appropriate 'subject of governance' for closing this gap? Almost universally, current responses to deforestation use international supply chains as this subject. They are therefore premised on an ability to purge connections to deforestation from these chains without requiring changes in consumption levels or patterns, the structures or practices of globalisation, and the logic of capitalism that – perhaps – underpins those alternative subjects of governance.

Other literatures proffer their scepticism about this premise. Consumption literature asserts that neglecting the magnitude of consumption of relevant commodities may undermine the benefits of the fraction of consumption being verified as 'deforestation-free'. This literature also portends that deforestation might be displaced rather than resolved through these efforts, and highlights the potential for perverse consequences through the rebound effect, even if individual supply chains can be purged of a connection to deforestation. An attention to globalisation, on the other hand, suggests that current responses neglect one crucial aspect of globalisation, are ambiguous in relation to another and might possibly have an exacerbating effect on the third.

The importance of these perspectives is, firstly, to show that taking supply chains as the responses' subject of governance is only one of multiple alternatives, and secondly, that this decision has consequences in how the 'problem of deforestation' is framed and responded to. Responses problematise the sourcing of unsustainable or illegal versions of specific commodities that are implicated in tropical deforestation. What is left unproblematised may limit these responses' contribution to slowing deforestation.

This chapter has advanced a deeper understanding of these responses and clarified their nature as a result of one pivotal, unifying characteristic: their subject of governance. The insights from this chapter, especially concerning responses' subject of governance, will be returned to in the following chapter's conceptual examination of responses' limitations, as well as Chapter 7's empirical exploration of whether, and how, responses might overcome some of these limitations.

Chapter 4 Conceptual findings

Chapter 2 defined the primary research question that guides this study and the methods used to pursue it. This chapter approaches the study's first research sub-question by exploring the limitations that emerge from the conceptual nature of responses. The chapter identifies and develops several limitations on the contribution that responses can make to slowing tropical deforestation, including responses' inherent framing of the underlying problem of tropical deforestation and their fractional 'coverage' of commodity production. In addition, several possible limitations are identified from analysis of responses' orientations and interactions; these possible limitations are only discernible from the platform for collective analysis that is enabled by this study's effort to gather responses together.

Particularly in relation to these comparative and interactive limitations, this chapter identifies multiple further questions that must be answered to in turn inform a full answer to the conceptual sub-question. In other words, answering this study's conceptual sub-question necessitates seeking answers for a series of further questions. One major contribution of this chapter is to clarify and delineate these questions (presented in Table 4.1); however, the nuance of some of these questions means that not all are able to be approached here, either within this chapter or the larger study. To be clear, then, this chapter does not seek to systematically answer these questions, although later empirical chapters will introduce relevant material to develop several of them (also noted in Table 4.1). The finding that these questions are significant is nonetheless consistent with this study's two-tiered ambition: to *clarify*, wherever possible, the limitations on current responses; and, failing that, to *identify* possible limitations warranting further attention.

Framing as a limitation

In its summary of the science of contemporary deforestation, Chapter 1 demonstrated that a handful of agricultural commodities, produced commercially, have been firmly identified as major drivers of deforestation in the tropics. This study's responses are subsequently targeted at these commodities. As Chapter 1 also noted, however, other drivers of deforestation exist and are even dominant within certain locations, such as subsistence agriculture and timber harvesting for fuel use in Papua New Guinea and much of Africa, respectively. Weaving these two threads together, it is clear that current responses are *framed* by a particular understanding of deforestation; namely, that commercial agriculture is the most (if not the only) significant

Table 4.1 Further questions emerging from an exploration of responses' conceptual nature (in the sequence in which they appear).

Theme	*Question*	*Further explored by this study?*
Framing ***(of deforestation drivers)***	How accurate is responses' framing of the deforestation commodities as major drivers?	No.
Framing ***(of subject of governance)***	Will ignoring alternative subjects of governance, such as consumption and trade, limit responses' contribution?	Ch7
Coverage	Can responses achieve influence beyond coverage?	Ch7*
Diversity of motivations	Does the range of motivations affect either a) the design of responses or b) their behaviour once implemented?	No.
Multiple objectives	Does the presence of multiple objectives affect the potential of responses to address traded deforestation?	Ch4, 6
Dichotomy 1 (mandatory vs. voluntary)	Are mandatory responses necessarily stronger than voluntary ones?	Ch7
Dichotomy 2 (legality vs. sustainability)	Are sustainability responses necessarily stronger than legality ones?	Ch7*
Interactions	Are interactions between responses mutually inhibitive or complementary?	Ch4, 5*, 7

** Indicates a deliberate attempt to answer the relevant question using empirical evidence; other instances suggest the return of questions naturally during the course of introducing other evidence.*

driver. This framing contains the seed of an inherent limitation, because responses' contribution to slowing tropical deforestation is therefore contingent on the extent – at any given moment in time – to which this framing reflects the underlying reality of that process. Against emerging evidence that suggests some shift in the drivers of deforestation, then, responses' framing may begin to act as a limitation on their contribution.

This possibility does not necessarily imply a failing on the part of responses, of course. In fact, it is entirely possible that a shift in the drivers of deforestation might actually *result from* the *success* of current responses (as well as other actions outside this study's scope) in responding

to the impacts of commercial agriculture on tropical forests. For example, the increasing importance of smallholder agriculture in Amazonian deforestation (Godar et al., 2014) and any shift towards locating palm oil on degraded lands (which actors such as WWF, WRI and IFC are strongly advocating) would both be consistent with such a claim. However, other examples of shifts in the drivers of deforestation, such as proposed dams in the Amazon (Butler, 2014a), coal exploration and mining in Indonesia (Fogarty, 2014a), and roads through a major national park in Thailand (Erickson-Davis, 2014), all pose a threat for tropical forests that are all clearly beyond the remit of current responses. It is not the case that responses have failed to address these threats; rather these threats are beyond responses' framing of deforestation as a problem driven by commercial agriculture. In other words, responses are limited first and foremost in their contribution to slowing deforestation by their design.

Further, regardless of the contribution that responses have so far made to addressing deforestation – Chapter 2's unanswerable question – the *future* potential of existing responses will be determined by the accuracy and completeness of their framing. Against evidence of a changing backdrop in the drivers of deforestation, then, a structural mismatch is emerging (or more specifically, being enlarged) between these drivers and existing responses. The extent of this mismatch, which to repeat, occurs by design, is therefore one critical limitation of current responses to deforestation. Responses structured on a particular conception of the drivers of deforestation will lose the (incomplete) traction they initially had.

A further nuance of responses' framing extends this limitation. Chapter 3's discussion concluded that responses are framed around a very particular 'subject of governance': namely, illegal or unsustainable *versions* of the deforestation commodities. In other words, responses make a distinction between, for example, palm oil and tropical timber *as commodities*, which are not deemed inherently problematic, and the *versions* of these commodities that are directly implicated in deforestation, which are deemed problematic. Perhaps in the absence of displacement and rebound effects, this distinction could be drawn neatly; yet if these effects are either present or even 'inevitable', as Boucher et al. (2011:98) allege, then the clarity of that distinction wanes. The magnitude of consumption of these commodities, as well as the processes of globalisation that have enabled them to become ubiquitous both within and beyond the tropics, are similarly disregarded by current responses' framing of the problem they intend to address. Again, the traction that responses can have on the problem they intend to address depends on the accuracy of the assumption, implicit within their use of supply chains as a subject of governance, that the consumption of solely unproblematic versions of commodities will contribute to slowing deforestation.

To summarise, then, this chapter has so far identified two limitations on responses' potential, both of which that derive inherently from their framing of the underlying problem. In the first case, the mere existence of other drivers of deforestation reveals that responses' framing contains a limitation. In the second case, the limitation of responses' current subject of governance is strongly suggested, though not yet able to be confirmed, by arguments from consumption, globalisation and capitalism literatures canvassed in the Chapter 3. This limitation derives from responses' assumption that they can contribute to slowing deforestation without needing to look beyond problematic versions of commodities. (Chapter 7 will introduce evidence that this assumption is flawed.) Each of these limitations is listed in Table 4.1.

Coverage as a limitation

A further limitation of responses derives, again by necessity, from their concern with *international* supply chains for the deforestation commodities. As Chapter 1 mentioned, and this section will expand upon, the fractions of these commodities that are traded internationally comprise only a subset of total consumption of these commodities. It is beneficial here to introduce the concept of 'coverage', which at least at first is simplest to comprehend at a jurisdictional level.

The responses included within this study all originate from outside the tropics, primarily from the Western jurisdictions of the EU, the US and Australia. The focus of these responses on international supply chains means they can only *directly* affect the fraction of commodity production (or part thereof) that is subsequently exported. Stated differently, responses cannot target, or expect to directly affect, *domestic* consumption of these commodities within producer countries, given that responses work by acting on *international* supply chains.

This poses something of a problem for responses' ambitions to address tropical deforestation, because for most of the deforestation commodities domestic consumption within tropical producer countries comprises a more significant fraction than exports. For Brazilian beef, for example, 'approximately 19 percent' is exported (Foreign Agricultural Service, 2010, in Richards et al., 2012:456), while for palm oil, approximately 20 percent (of palm fruit) is exported (calculated from Brack and Bailey, 2013). Sometimes there is disagreement on export figures, especially for timber-derived products. For example, Marx and Cuypers (2010) use FAO data to put the percentage of industrial roundwood (timber) exported at 'less than 10 percent' (p427), while Kastner et al. (2011a), also using FAO data, note that 'compared to industrial roundwood production', global trade in wood products was 35 percent in 2007 (p950). Of all relevant commodities, soybean provides the exception to these figures, with 'approximately 70 percent' of

Brazilian soybeans exported for consumption abroad (Richards et al., 2012:456). Table 4.2 shows the figures for respective commodities.

Table 4.2 Fraction of 'deforestation commodity' production that is internationally-traded.

Commodity	Year (data)	Exports as a fraction of production (Source)
Timber (industrial roundwood)	1997-2007	10-33% (Marx and Cuypers, 2010; Kastner et al., 2011a)
Palm oil†	2010/11	70%, including 95% of Malaysian production (Wikipedia (Palm Oil))
Soybean	2012/13	65-70% (Brack and Bailey, 2013)
Beef	2012/13	10-11% (Brack and Bailey, 2013)
Leather	*Unspecified*	'the vast majority' (Brack and Bailey, 2013)
Cacao†	2010	'the bulk' (Brack and Bailey, 2013)

† *Tropical producers only; figures include author's own calculations based on listed sources.*

These numbers show both that there is significant domestic consumption of relevant commodities, especially beef and timber, and that the importance of international trade differs significantly by commodity. Yet importantly, the residual of these figures still does not reflect the fraction of production that responses can directly affect. This results from the bias whereby only Western jurisdictions have implemented responses to traded deforestation. Consequently, some exports are not 'covered' by any responses to traded deforestation.

Remaining at a jurisdictional level for the moment, the obvious question to pose is as follows: 'How significant are the 'active jurisdictions' of the EU, US and Australia as export destinations for the deforestation commodities?'. Again, the relevant fractions differ by commodity, and indeed, given that some of the commodities – soybean, palm oil, timber – can take myriad different forms, each derivate of these commodities necessarily has its own unique profile of both trade and consumption. These profiles will not be canvassed comprehensively here; for a neat overview of global production and international trade in palm oil, soybean, beef (as well as leather and cacao), see Brack and Bailey (2013).

Despite the diversity of these profiles, however, it remains possible to state that with the partial exceptions of timber and soybean, the fractions of commodity production exported to environmentally-sensitive jurisdictions are generally small. Table 4.3, below, details the primary export markets for these commodities as a fraction of total *exports* (with data now confined to tropical countries for timber, as noted).

Table 4.3 Export destinations for internationally-traded fractions of the deforestation commodities.

Commodity	Export markets, in order of importance (with % of total imports)	Source
Timber† (logs)	*China (52), India (36)*	ITTO, 2012
Timber† (sawn wood)	*China (40), Thailand (23), EU (15)*	ITTO, 2012
Timber† (plywood)	*Japan (44), EU (14), South Korea (12), US (8)*	ITTO, 2012
Palm oil†	*EU and China (33 together), Malaysia, India, Pakistan (66 total)*	Brack and Bailey, 2013
Soybean	China and EU (53 together)	Brack and Bailey, 2013
Soybean (from Brazil)	*China (49), EU (37) in 2008*	Richards et al., 2012
Beef	Russia, US, Japan, South Korea, EU	Brack and Bailey, 2013
Beef (from Brazil)	*Russia (30), EU (10)*	Brack and Bailey, 2013
Leather	China (37), EU (Italy), Hong Kong (62 total)	Brack and Bailey, 2013
Cacao†	EU and US (50 together)	Brack and Bailey, 2013

†All timber, palm oil and cacao figures are from tropical producers only.

Table 4.3 demonstrates the repeated prominence of several jurisdictions across the international trade profiles for these commodities. The EU, which has been one of the most active jurisdictions in responding to traded deforestation at both a governmental and company level, is a globally significant importer of both tropical sawn wood and tropical plywood, palm oil, soybean, leather and cacao. The US is a significant importer of tropical plywood and cacao.

For almost all these commodities and categories, however, China is often the foremost export destination. China is the world's largest importer of tropical logs and tropical sawn woods, as well as soybean (including Brazilian soybean) and leather; it is also the second largest importer of palm oil. Unlike the EU and US, China is typically regarded as a 'non-environmentally sensitive' jurisdiction (Cashore et al., 2006:14), a label that for present purposes is reflected in the absence of meaningful regulatory or policy responses to traded deforestation. (China currently has a draft code of conduct for 'overseas sustainable forest products trade', which the Environmental Investigation Agency finds wanting for its voluntary, non-regulatory approach; EIA, 2014.) Other 'non-sensitive' jurisdictions, including India, Japan and South Korea, are also important destinations for exports of these commodities. As Table 4.3 demonstrates, however, their role is less consistent and instead relates to specific commodities.

There are three overarching conclusions to be drawn from these figures: firstly, that domestic consumption of the deforestation commodities is in almost all cases more significant than the fraction that enters international supply chains. Secondly, no single export destination

(importing jurisdiction) is monopsonistic for any of the commodities or derivates that are traded. Thirdly, and most pertinently for this study, trade in almost all commodities (except possibly palm oil) is dominated by 'non-sensitive' jurisdictions, most typically China.

The meaning of these conclusions is as follows. Recall that current responses to traded deforestation can only directly affect the international supply chains leading to the handful of environmentally-sensitive jurisdictions from which they originate. This limitation is inescapable, and the fractions of total production that these supply chains form, or 'cover', are often minimal. For example, the EU's palm oil imports amount to 15-17 percent of the traded total, which in turn is approximately 70 percent of total production. Multiplying these quantities, the EU's palm oil 'coverage' at a jurisdictional level is 10.5-12 percent; non-negligible, certainly, but by itself less than significant. To reiterate, then, responses' intention to slow tropical deforestation is highly circumscribed by the fraction of implicated commodities that responses cover.

There are two assumptions behind this calculation that are worth mentioning. Firstly, jurisdiction-based figures are premised on the assumption that responses cover entire jurisdictions. For some responses, such as illegal logging regulations, this assumption is clearly sound, yet in others it is likely to be less so. Only a part of the EU's imports of palm oil, for example, is covered by the RED biofuels framework; similarly, only some of the EU-based companies that use palm oil have developed sourcing policies requiring sustainability. Consequently, alternative framings of coverage, based on different end-uses or use by different types of companies, can reveal a more nuanced picture than a jurisdiction-based framing. These ideas are developed further in a section that follows below.

Prior to that discussion, however, it is necessary to note a second assumption relevant to coverage, which is that responses will translate fully, equally and perfectly from what is announced to what is enacted on the ground. In other words, this discussion of coverage (as well as this study more broadly) assumes that the conditions set out within a given policy or regulation can and will be mirrored within the practices that occur at the points of production and trade. Thus, when Unilever implements a policy for the 3 percent of global palm oil production that it purchases, the full 3 percent will come to resemble the details of that policy. There are multiple reasons to remain sceptical of this assumption, not least because actors – and particularly NGOs – continue to find evidence of forests being cleared by suppliers to companies that have vowed to eliminate such practices from their supply chains (Mongabay, 2014b). For present purposes, then, it would be prudent to interpret coverage figures as a maximum or *best-case* scenario of a given response's direct effect.

The figures in Tables 4.2 and 4.3 generate a static picture of the current state of exports and major destinations for traded deforestation. Clearly, any trends within these trade profiles will also come to be reflected in responses' coverage through time, thereby affecting the scope of their potential contribution. These trends, by and large, suggest a reduction in coverage for current responses over time. For example, recent demand growth for palm oil has come primarily from China, India and the EU (which are also the largest consumers by volume). As Brack and Bailey report, these three 'were responsible for about half of global demand growth from 2000 to 2010' (2013:46). With approval looming of the EU's plan to cap the use of first generation feedstocks in achieving its biofuels targets (Lewis, 2015), continuing increases in palm oil imports to the EU become less assured.

The EU's growing demand for palm oil actually demonstrates another germane point for this discussion, since a large part of this growth appears to have been the result of other policies pursued by that jurisdiction. Two especially relevant policies include: the introduction of biofuels targets in 2004, which subsequently diverted much of the EU's rapeseed oil production towards biofuels; as well as the introduction of a genetically modified (GM) labelling requirement for all EU-consumed soy, which reduced soybean imports (Brack and Bailey, 2013). Both of these policies created a shortfall in the availability of vegetable oils that could be used for both cooking and biofuels, a gap into which palm oil has stepped.

The importance of these two examples is that they reflect *past displacement*. In its attempt to resolve perceived problems with genetically-modified crops and (somewhat paradoxically) greenhouse gas emissions from the transport sector, the EU inadvertently set itself up to import much greater volumes of a crop – palm oil – that has been strongly implicated in deforestation. The EU's looming cap on 'first-generation' feedstocks, possibly to be set at 6 of its 10 percent biofuels target, is a subsequent attempt to address this problem, and an example of adaptive management in action. But while this decision is likely to diminish the EU's demand growth for palm oil in future years, it simultaneously limits the fraction of palm oil production that is 'covered' by the EU's biofuels framework. If production is ultimately unchanged, this unwanted share of palm oil will likely be further displaced towards other consumers, or consumed domestically.

The EU's recent relationship to palm oil provides an interesting case study in how policies have ramifications beyond their intended target. Yet the EU's policy twists and turns may also be less important to the future of palm oil consumption than it first appears, since the rationale underpinning intended expansions in production in both Indonesia and Malaysia stems from

'the sector's potential contribution to rural and socioeconomic development' (Guariguata et al., 2011:15), as well as alleviating energy concerns through greater domestic biofuels consumption. The level of demand for palm oil in Western jurisdictions such as the EU is at best marginally relevant to these intentions (and as Chapter 2 noted, palm oil production is highly likely to be supply-driven). On these bases, Sheil et al. (2009) conclude that 'the future for palm biodiesel is therefore likely to lie within Indonesia and Malaysia themselves, and perhaps in other key consumer countries outside the European Union (i.e., China and India)' (p18).

The trends in demand for soybean exhibit some similarities to those for palm oil. As Brack and Bailey (2013) note, 'over the last decade, China alone has accounted for almost two-thirds of global demand growth, trailed distantly by Argentina and Brazil' (p56). In this case, China, a jurisdiction yet to enact supply-chain responses, is the most prominent in both recent and expected demand growth (along with both major tropical producers of the crop). Again, too, policy decisions taken in Western jurisdictions led – probably unintentionally – to an increase in soybean imports into those jurisdictions. Prior to the EU's aforementioned GM-labelling policy for soy, which led to a substitution *away* from soybean and towards palm oil, the EU had in 2002 banned 'the widespread practice of using animal carcasses and waste meat' as animal feed, which led to significant *increases* in soy imports (Brack and Bailey, 2013:57). Thus the consequences of the GM-labelling requirement (less soy, more palm oil) can be understood as a partial reversal – for soy – of the consequences of this earlier policy (less meat, more soy). Simultaneously, in the US, another instance of displacement was caused by the US' biofuels framework, which diverted domestically-produced corn and soy towards use as ethanol and biodiesel, in turn stimulating larger imports of soy from Brazil and Argentina (Brack and Bailey, 2013).

What these examples collectively show is, firstly, displacement in action; where policies targeted at resolving one problem (even environmental ones) have unintentionally led to increased imports of the deforestation commodities. As with many other examples of displacement, they are necessarily enabled by the greater interconnectedness of economic activity wrought by processes of globalisation. Returning to Boucher et al.'s (2011) succinct quote:

> 'Leakage is not an accident; it is the inevitable result of economically driven deforestation in a globalised world. There is no way to prevent it from happening entirely; the point is to minimise it, restrict it, and guide it to places where it does the least environmental and social damage' (p98).

Secondly, these examples also show that unintentional displacement occurs in the absence of an *a priori* concern about deforestation imports, *but that this can be amended* by retrofitting these policies with more conscious attention to relevant commodities. Such efforts are perceptible in the introduction of both sustainability criteria (in 2009) and the cap on the contribution of first-generation feedstocks (expected in 2015) for the EU's biofuels framework, RED.

Thirdly, and on the other hand, leakage is sometimes even further from accidental, with notable examples existing of *intentional* displacement of timber production to tropical countries, with very clear consequences for tropical forests. One well-documented case comes from the world's most prominent timber importer, China. As the EIA concludes in its report, Appetite for Destruction (2012):

> 'China's government has done virtually nothing to curb illegal imports, while putting in place policies to ensure supply from some of the worst illegal logging hotspots in the world' (p26).

The EIA accuses China's state-owned companies of playing 'a strategic role in securing supplies of forest resources from overseas', collectively accounting for '46 percent of the total volume' of tropical logs the country imports overall (p8). As Hance reports on Mongabay,

> 'Ironically, even as China has increasingly depended on raw logs and timber from abroad, it has undertaken herculean efforts to grow and protect forests at home. In the last two decades, China's forest cover has grown by 30 percent—while forest cover worldwide continues to plummet' (2012b).

Yet there need be nothing ironic about this situation; it is merely the process of displacement or 'leakage' chronicled by Meyfroidt et al. (2010) in a number of reforesting countries. It may even be inevitable if restrictions on domestic production are introduced while the overall magnitude of demand remains unchanged (recalling Chapter 3's discovery that current responses have mostly framed consumption levels as irrelevant). And as already noted, displacement need not be accidental; the EIA's analysis suggests that China's displacement of timber towards regional producers is deliberately encouraged by import-export tariffs and taxation regimes (EIA, 2012).

Using this real and current case of displacement as an example, one further point warrants mention. Namely, *complete* displacement from one country, such as China, to others may not be inevitable. According to Meyfroidt et al.'s analysis, 'for China, the displacement is smaller than its accumulated reforestation and offsets 45 percent of its reforestation in total (and 74 percent during the last 5 years)' (2010:20919). Thus, overall reductions in *forest area cleared* have still occurred, even if a significant (and growing) share of China's afforested area has been displaced.

Of course, as Chapter 1 sought to emphasise, heterogeneity in the carbon, biodiversity and other *values* of specific forest areas are highly relevant here, meaning that simple area-based calculations are insufficient for comprehending the full consequences of displacement for tropical forests.

In summary, then, current trends in demand for the deforestation commodities suggest an increasing prominence for jurisdictions such as China, from which supply chain-focused policy and regulatory responses have yet to emerge for those commodities. But before concluding this discussion of the limitation of fractional coverage, two further and more nuanced applications of coverage warrant attention.

Further forms of coverage

Applying the concept of coverage at a jurisdictional scale is intuitive and allows countries to be divided into two neat categories of 'environmentally-sensitive' and 'non-environmentally sensitive'. Other applications of coverage can also reveal further nuances, and additional implications, across current responses. The presence and importance of these applications will be noted only briefly here, and will not be furnished with figures, for reasons that will become clear.

A first alternative application of coverage differentiates between companies that have, and those that have not, implemented sourcing policies for traded deforestation. As Chapter 5 will soon expand upon, NGO campaigns have almost exclusively targeted companies with a high and branded 'profile', including retailers and manufacturers (such as Unilever, Nestlé and Mars), as well as supermarkets (Marks and Spencers, Coles, Woolworths). The 'consumer' end of supply chains therefore remains highly fragmented, with sourcing policies biased towards major, branded companies. The extent of this fragmentation is revealed, for example, through Unilever's palm oil purchases, which although accounting for a mere 3 percent of global production nonetheless establish that company as the world's single largest corporate purchaser. In coverage terms, 3 percent of global production (approximately 1.5 million tonnes) is by no means trivial, yet an undeniable tension exists between this direct coverage and Unilever's intention to 'transform the palm oil industry' suggests a looming challenge.

Distinguishing between 'branded' and 'unbranded' companies enables two subsequent implications to be revealed. The first is that when surveying the companies that have implemented sourcing policies for traded deforestation, there is a clear and strong bias *towards* branded companies. However, this bias does *not necessarily* reflect the underlying connection to

traded deforestation of these two categories of company. As Dauvergne and Lister (2012) note, 'branded retail goods only comprise a segment of world consumption; for every branded product, there is at least one unbranded one' (p43). These authors also crucially note the potential for displacement *between* these two categories of company, enabled by the incomplete coverage of the latter; they write that 'protecting some things in a branded market may well simply shift the consumption elsewhere' (ibid.).

The second implication builds upon the bias detected in the first; namely, that the current 'model' of naming and shaming through which NGOs pressure and then collaborate with companies in relation to traded deforestation *lacks traction* with the unbranded category of companies. For mostly obvious reasons (explored thoroughly in Chapter 5), the companies most vulnerable to such pressure are those that are consumer-facing and have a high brand-profile. For unbranded companies, where neither relationships with end-consumers nor protection of a well-known brand are of paramount importance, NGOs have floundered to find alternative strategies. Indeed, as Chapter 7 will demonstrate, both NGOs and branded companies assert 'theories of change' that essentially assume their responses to traded deforestation will *precipitate* or inspire responses from unbranded companies.

Another useful application of coverage differentiates between *different end-uses* of the deforestation commodities. As alluded to earlier, even some notionally jurisdiction-based responses, such as the EU's biofuels framework, only address the fraction of palm oil that is put towards a specific end-use. That framework cannot (and is not intended to) directly address the palm oil imported and consumed in supermarket products, for example. For reasons touched on in Chapter 3's discussion of transformative distance, some end-uses of deforestation commodities have generated responses while others have not. For palm oil, which is present in minute quantities within literally thousands of products; for timber, which can take the form of paper napkins or cardboard; and for soybean, which is mostly not consumed directly but used instead as animal feed, the perception of a connection between specific consumer products and tropical deforestation often lags behind the physical connection. As with unbranded companies, then, the NGO model sits uncomfortably with end-uses that are 'hidden' or removed from consumers' experiences within supermarkets.

One example comes in the form of the increased use of palm derivates (mainly residues) as a feed for livestock, especially during drought. By 2010, this use for palm residues had elevated New Zealand to the sixth largest palm oil importing jurisdiction (Brack and Bailey, 2013). Yet the absence of policy attention to these imports reveal that this end-use is equally difficult to

'problematise' as the diversion of 80 percent of global soybean production for animal feed (Brack and Bailey, 2013).

Uneven coverage of different end-uses is not often recognised explicitly, although a consultant's report to the UK Department of Food and Rural Affairs (DEFRA) provided a notable exception. When DEFRA was considering its response options for palm oil imports, this report noted that,

> 'To date, the animal feed sector has not been subject to the same level of market interest or pressure for sustainably sourced product, and therefore offers the potential for significant gains in sustainable sourcing through targeted awareness-raising and support' (Proforest, 2011:3).

In this quote Proforest makes the argument that low levels of 'market interest' and 'pressure' for sustainable sourcing within the animal feed sector actually reflects an opportunity for 'significant gains'. While this argument is not incompatible with the observation that NGO campaigns depend on high-profile, branded target companies, it does beg the question of whether the further involvement of DEFRA is required to overcome the limitations of the NGO model; in essence, for the public sector to pick up where civil society leaves off. As a later section in this chapter notes, however, public sector actors have tended to frame the problem of traded deforestation as – essentially and primarily – one for the private sector to respond to, thus undermining the likelihood of complementary public sector responses. (Chapter 6 identifies several further limitations on consumer governments in responding.)

There are practical barriers that prevent equal treatment across different end-uses, even for a given commodity. As stakeholders in DEFRA's palm oil mapping project later noted, 'some palm oil products can be more easily sourced as certified than others' (Proforest, 2011:4). Stakeholders in the DEFRA project use this as a basis for 'a stepwise approach to implementation for different types of palm products' (p4). (In Chapter 7, participants stress the importance of actor 'learning' through greater engagement with their supply chains.) At the very least, the fact that some products are 'more easily sourced as certified' calls renewed attention to the multitude of uses for three of the deforestation commodities – palm oil, soya and timber – which are now included within literally thousands of products. The processes of globalisation canvassed in Chapter 3 have effectively let the genie out of the bottle, with the fragmentation of these commodities into such a diversity of end-products making the challenge of bridging trade's governance gap ever more difficult for responses.

Summarising then, these two alternative applications of coverage – which distinguish, respectively, between branded and unbranded companies, and between different end-uses –

provide a finer-grained understanding of how current responses for traded deforestation are structurally limited. With the sole exception of illegal logging laws, responses are not evenly applied across jurisdictions (even then, there is the potential for differential implementation across countries within the EU; Saunders, 2013). Sourcing policies exhibit a strong bias towards branded companies, and these and other responses (biofuels frameworks, public procurement) are also biased towards certain end-uses (supermarket products) and away from others (animal feed). These two applications of the concept do not match neatly with its jurisdictional application. In particular, many branded companies, while headquartered in an environmentally-sensitive jurisdiction, may nonetheless have significant sales in other jurisdictions, including China, India, Japan, and other countries appearing in Table 4.3. If companies' sourcing policies are applied across all their operations – i.e. globally – they can therefore blur, in a positive sense, the distinction between environmentally-sensitive and other jurisdictions.

The limitation of fractional coverage also raises an important question (Table 4.1). To what extent might responses be able to inspire or provoke changes to the large fractions of production beyond the supply chains they cover? In other words, can responses achieve 'influence beyond coverage', effecting change that can 'cascade up' or 'ripple out' from the fractions that are directly covered? This possibility will be explored – empirically – in Chapter 7, which identifies the pathways along which such change might conceivably occur. One such pathway is the potential for multinational companies to introduce responses into otherwise non-environmentally sensitive jurisdictions, a possibility that both companies and other actors, such as NGOs, are alive to.

Comparing responses by orientation

While this study's effort to gather together responses enables comparisons to be made across the set of responses, crucially it also enables interactions to be identified *between* responses. As this and the next section will demonstrate, pursuing each of these tasks reveals further limitations on responses' contributions to slowing deforestation, even if clarifying the extent of that limitation often depends in turn on subsequent questions. Outlining the remainder of this chapter, then: this section will make careful comparisons between responses, while the following section will begin to explore their interactions (a task continued in this study's empirical chapters to come).

Comparisons across this study's set of responses reveal multiple *differing aspects* of their orientations that are worthy of further elaboration. This section will explore four such aspects

in accordance with their pertinence to the limitations on responses' contribution to slowing deforestation. Namely, these aspects are:

- the presence (and relative importance) of objectives *in addition to* slowing deforestation,
- which actors take (or are given) responsibility by responses,
- whether responses use legality or sustainability as a reference point, and
- whether compliance is mandatory or optional.

Multiple objectives and motivations

As Chapter 1 made clear, this study's responses share the objective of slowing tropical deforestation; however, further comparison across responses reveals variance in actors' stated reasons for pursuing this objective, as well as – and more importantly – that addressing deforestation is often only one of multiple objectives responses pursue.

Firstly, actors' stated objectives for responses reveal a variety of motivations for responding to tropical deforestation. These reasons draw on the multiple *values* embodied by tropical forests, as canvassed in Chapter 1, which also concluded that the combination of values applicable to tropical forests may be what distinguishes them and explains their current prominence.

While the specific motivations of actors are not always divulged, the Consumer Goods Forum provides an example where the motivations behind its 'deforestation-free supply chains by 2020' commitment are made explicit:

> 'The initial focus was on activities which would address climate change. Climate change is a major strategic threat, potentially affecting our customers, our businesses and the wider economy and society' (CGF, 2014b).

This statement draws on the relevance of tropical deforestation to climate change mitigation, which the CGF identifies as a 'major strategic threat' not just to its business (though this is acknowledged) but also to the 'wider economy and society'. A second, more detailed, example is provided by Nestlé in relation to its Responsible Sourcing Guidelines, where it argues,

> 'The success of Nestlé is intimately connected with the health of the forests and forested landscapes from which it sources some of its raw materials. Nestlé recognises that the standards and practices followed by its suppliers can impact positively or negatively upon the forests, through the expansion of agriculture or forest plantations into forested areas, and the stewardship of forests from where raw materials are sourced.

> 'Nestlé believes that improving the sustainability of our raw materials will create shared value across the supply chain from local communities all the way through to consumers' (Nestlé, 2011:1).

Like Nestlé, governments have often been forthcoming about their objectives. For example, the UK Government's flagship programme on tropical forests – the Forests, Governance and Markets Programme – explicitly poses the question, 'What need are we trying to address?', which it then answers as follows:

> 'Deforestation and forest degradation harm biodiversity, contribute to climate change and increase poverty... [They] also deprive forest-dependent people of their livelihoods... [And] a substantial proportion contravenes national regulations and laws' (excerpts only; DfID, 2011:1).

The UK Government's Palm Oil Statement similarly notes,

> 'There is growing awareness that the greater production of palm oil can increase the risk of destruction to tropical rainforest and drainage of peatland areas causing major impacts on biodiversity, climate change and the land rights of local peoples...
>
> 'By taking steps to source their palm oil more sustainably, UK companies at all stages of the supply chain can help to reduce the negative impacts associated with palm oil production. The EU is a major global market for palm oil, and the UK is one of the most influential players in that EU market. Through co-ordinated action, the UK supply chain can influence other consumers and producers and support the global drive to make palm oil production and consumption more sustainable' (DEFRA, 2012a:1).

Finally, the inter-governmental Joint Statement (undated) issued by five consumer country governments (the US, UK, Germany, Norway and Australia) provided its motivations as follows:

> 'The urgency of tackling climate change is clear. We agree to continue our efforts to address climate change and recognise the need for increased mitigation ambition in the period to 2020, with a view to doing our part to limit the increase in global temperature below 2ºC above pre-industrial levels, consistent with science. Significant reductions in emissions from deforestation and forest degradation in developing countries before 2020 will be critical in this context' (p1).

As is evident from these examples, actors advance multiple rationales and reveal multiple motivations behind their responses to traded deforestation. These motivations reference many of the values ascribed to tropical forests in Chapter 1. The first two examples come from the

private sector and both assert that there is a business case for maintaining 'the health of the forests and forested landscapes' (Nestlé, 2011:1), both in itself and for its contribution to addressing the 'major strategic threat' of climate change (CGF, 2014b). Each of these examples also go beyond this narrow business case argument, however, with the CGF recognising the threat that climate change poses to 'the wider economy and society' (ibid.), and Nestlé explicitly acknowledging its own responsibility for forests on the basis that 'the standards and practices followed by its suppliers can impact positively or negatively upon the forests' (2011:1).

Similarly, governments have echoed the importance of deforestation because it can 'harm biodiversity, contribute to climate change, increase poverty... and deprive forest-dependent people of their livelihoods' (DEFRA, 2012a) as well as 'critical' role of reducing deforestation in 'tackling climate change' (Joint Statement, undated:1).

Given the range of actors that have implemented responses, perhaps it is unsurprising that they are supported by this diversity of motivations. For this section's purposes, the importance of this diversity lies in whether and how it has shaped responses themselves, as well as actors' support for them. Phrased as a question, then, has the presence of multiple objectives affected either the design or behaviour of responses? (This question will now be briefly explored, although it also appears in Table 4.1.)

Consider the multiple objectives sought by the illegal logging laws that have been implemented in the US, EU and Australia. These regulatory efforts have been included within this study's set of responses in large part because governments have explicitly made the link between illegal logging and tropical deforestation. For example, mirroring the UK Government's Statement on Palm Oil, the Australian Department of Agriculture, Fisheries and Forestry (DAFF) notes that illegal logging,

> '...is a significant global issue. It degrades forest environments, contributes to greenhouse gas emissions, reduces biodiversity, results in a loss of government revenue and deprives local communities of ownership rights and opportunities to improve their quality of life' (DAFF, 2014a).

In the US, Senator Ron Wyden, one of the two politicians sponsoring the Amendments to the Lacey Act, argued that,

> "... this Act helps address an illegal logging crisis. From the Amazon to the Congo Basin, from Sulawesi to Siberia, illegal logging is destroying ecosystems. It is gutting local economies. It is annihilating ways of life" (Wyden, 2007:1).

Finally, the website for the EU Timber Regulation makes the following arguments, including one that explicitly connects illegal logging to deforestation:

> 'In economic terms illegal logging results in lost revenues and other foregone benefits. In environmental terms illegal logging is associated with deforestation, climate change and a loss of biodiversity. In social terms illegal logging can be linked to conflicts over land and resources, the disempowerment of local and indigenous communities, corruption and armed conflicts' (EC, 2015a).

These statements show that, both in the minds of policymakers as well as subsequent policies, illegal logging and deforestation are positioned as overlapping problems. They are viewed as important for similar reasons, and responses to one are implemented with at least one eye on addressing the other. But as the following quotes will demonstrate, there is a second objective pursued by these illegal logging laws: to prevent foreign sources of cheap timber undercutting and undermining domestic forestry industry within the US, EU and Australia. In 2011, for example, the following statement was made as the Illegal Logging Prohibition Bill was introduced into the Australian Parliament,

> "Illegally harvested timber also undermines well regulated and sustainable industries, including the Australian industry, by undercutting legally harvested timber products" (Kelly, 2011).

Senator Wyden, who sponsored the Amendments to the Lacey Act in the US, stated before his mention of the 'illegal logging crisis':

> "I am proud to introduce [a precursor to the Lacey Amendments] to halt the trade in illegal timber and timber products. This Act will help to level the playing field… for all American manufacturers across the country struggling to compete against imported, low-priced wood and wood products harvested from illegal sources…" (Wyden, 2007:1).

And finally, in addition to the 'economic' and 'social' problems with illegal logging, the website for the EU TR states that,

> 'Illegal activities also undermine the efforts of responsible operators by making available cheaper but illegal timber and timber products in the market place' (EC, 2015a).

It is clear, then, that while US, EU and Australian regulations for illegal logging are based at least in part on its connection to deforestation, another major, *domestic* objective is also intended to be served by these regulations. It is this second (though not necessarily secondary) objective

that led domestic forestry industries in all three jurisdictions to support these regulations, *even though* they would themselves bear the associated regulatory burden of these laws (on which Chapter 6 elaborates at length). Environmental NGOs, on the other hand, provided their support for the regulations on the basis of the former objective, meaning that in all three jurisdictions the laws created 'bootleggers and baptists' coalitions between actors that are more frequently critical to one another's objectives (Evans, 2012).

These broadly-supported laws provide an opportunity to propose a tentative answer to the question introduced earlier: whether the presence of multiple objectives has affected the design or behaviour of responses. The political dynamics behind illegal logging legislation in the US suggest that the answer might be 'yes'. In that jurisdictions, the first enforcement raids under the amended Lacey Act were targeted at the well-known and much-loved Gibson Guitars, based in the home of American country music, in Nashville, Tennessee. Undoubtedly, targeting such a well-known business (and brand) in these first enforcement raids was intended to demonstrate the seriousness behind the new laws, and encourage other businesses to undertake the due diligence that was now a legal requirement. However, those raids, and the prominence of their target, also had the effect of challenging domestic business support for the regulations, by driving home the fact that the US Government's crackdown on illegal timber imports (the objective that appealed to the domestic forestry industry) would be enacted by monitoring of, and enforcement against, domestic timber importers and businesses.

In the wake of these first raids, domestic businesses began to voice new concerns about the Lacey Act, citing its 'draconian' nature and the absence of 'innocent owner' provisions (Dalsing, 2012). The owner of Gibson Guitars publicly announced his support for the Tea Party, an arch-conservative national political party, in the lead up to the 2012 US presidential elections. Crucially, he worked with the Tea Party to encourage a piece of reactive legislation to the Lacey Act amendments of 2007. Although this legislative backlash, which was called the RELIEF Act, has now failed, the *environmental objective* of the Lacey Act was clearly threatened by its perceived failure to realise the *economic objective* of supporting domestic industry and businesses. As one participant in this study also noted, while no legislative backlash to the Lacey Act has been established, the laws can be undermined by other, more surreptitious means; chiefly, by not funding agencies to enforce them (Boucher et al., 2011). In this case, the presence of multiple objectives created the risk that a drop in support for one objective would simultaneously threaten the other.

Institutional responses, such as the NGO-industry Roundtables and the Programme for the Endorsement of Forest Certification, also pursue multiple objectives simultaneously. These

responses seek to balance the environmental, social and economic objectives of their members in relation to a given commodity. Sometimes these institutions are structured to facilitate this balance. The equality of these objectives is reflected in the FSC's three, equally-weighted governance chambers, for example, while the RSPO intends to achieve its balance through the carefully balanced (though contested) composition of its executive board.

Despite the origins of the FSC in the failure of international negotiations to specifically address deforestation (Synnott, 2005), however, the FSC does not mention deforestation in its vision or mission statements (FSC, 2014d). Nor does the RSPO, despite the motivations of actors behind its formation, including the WWF and major retailers such as Unilever, to respond to the connection between palm oil and tropical deforestation. In fact, neither the first iteration of the RSPO's principles and criteria, nor their first major review in 2012-13, enacted protections for either the highest ecological value forests or greenhouse gas-laden peatlands (Mongabay, 2013b).

Researchers of these Roundtables have proposed that the presence of multiple objectives might necessitate trade-offs between these objectives. If this were the case, Roundtables would provide further evidence for an affirmative answer to the question at hand, since the behaviour of responses could be affected by multiple, even competing objectives. For Roundtables, the question to be answered can be made even more specific: does the need to entice producers to join undermine the strength of the scheme's criteria? The weakness of the RSPO's environmental criteria, for example, suggests that its objective to 'advance the production' of certified palm oil (RSPO, 2014a) has come at some expense to the protection of tropical forests at risk of clearance. Proposals to shore up the latter, primarily through the aforementioned review of principles and criteria, have been slowed and stymied. The FSC has also been criticised along similar lines, especially when it first introduced a 'FSC Mixed Sources' label (where only 70 percent of the timber volume need be FSC-certified) and when it began certifying timber supply chains in addition to timber and wood products. (These are somewhat contested assertions, however, and will be explored in Chapters 5 and 7 in light of interviews with practitioners, supporters and critics of these schemes.)

As with the backlash to the Lacey Act from domestic businesses in the US, then, some actors – especially environmental NGOs – have been disappointed by the collective decisions made by the FSC and RSPO in their brief histories. In both cases, reactions have at times been both public and openly hostile. These two examples demonstrate the difficulties that inhere in governance responses that simultaneously seek to pursue other objectives, a factor that may limit – by

curbing the strength with which they can pursue their environmental objective – the contribution that these responses can make to slowing deforestation.

A provisional answer seems possible to the question of whether multiple objectives might compromise, or otherwise affect, responses design and behaviour. With reference both to the political dynamics that ensued after the first timber raids under the Lacey Act and to the strength of the standards of (especially) the RSPO, it seems probable that the need to realise and balance multiple objectives may create a limitation on any single objective, of which slowing deforestation is one. This chapter leaves its exploration of this question at this point, to examine a second aspect of responses' orientations.

Responsibility

A second useful comparison across responses concerns the actors that take (or to which responses give) responsibility for enacting change. There are two levels at which responsibility is allocated, both of which remain to some extent unsettled, reinforcing Weinzettel et al.'s (2013) statement that the 'translocation of environmental pressures is confounding the issue of responsibility' (p437). The first level concerns allocating responsibility between producer and consumer countries (usually at a governmental level), while the second level concerns the allocation of responsibility within consumer countries.

Are producers ultimately responsible for the social and environmental impacts of their production? Or are consumers driving these impacts through their consumption? The discussion of key terms in Chapter 2 broached this as a question of semantics that ultimately hinged on a deeper conception of the relationship between international trade and a given environmental problem. Attempting to delineate and attribute responsibility, even at the broad scale of producer and consumer countries, is a difficult and ethically-charged task. In their attribution of greenhouse gas emissions from the Brazilian Amazon, Zaks et al. (2009) opt for equal shares for producers and consumers on the basis that full allocation to either group would result in incentives for perverse outcomes. As a more academic exercise, Lenzen et al. (2007) explore various allocations for ecological footprints.

The motivations of actors examined in the previous section demonstrate that, generally though not universally, actors in consuming societies do accept some responsibility for their contribution to traded deforestation. Nestlé's Responsible Sourcing Guidelines state this more explicitly than most. At a governmental level, producer countries have consistently pointed out the need for consumer countries to accept some responsibility. In 2011, for example, the

Indonesian President, Susilo Bambang Yudhoyono, encouraged timber-importing countries to be more vigilant against accepting illegal timber exports from his country, stating,

> "Other countries should stop fencing illegally felled timber. That's the kind of deal we need to work on" (quoted in Jakarta Globe, 2011).

In 2010, the Indonesian Forestry Minister, Zulkifli Hasan, voiced an identical sentiment when he noted that,

> "... we have asked other countries to make the same commitment to eradicate illegal logging by not buying wood whose origin is not clear. Do not only protest and criticise Indonesia" (quoted in Antara News, 2010).

Further, in an example from Brazil, the Brazilian Roundtable on Sustainable Livestock noted in relation to its industry's environmental impacts, that 'there is still much to be done and this requires foreign help' (GTPS, undated).

The Australian Government department that is overseeing its illegal logging legislation apparently seems to concur with the sentiment of these statements, arguing the need for its legislation on the grounds that,

> '[It is] in Australia's interests as *a responsible member of the global community* to protect plants and animals and the environment, promote sustainable forest management and reduce the depletion of exhaustible natural resources that are threatened by illegal logging' (emphasis added; DAFF, 2014a).

Other governments have consciously cast their responses to tropical deforestation in the light of expressed intentions of producer countries to do the same. The UK Government, for instance, noted that 'political commitment to tackle deforestation is evident in a number of contexts' as it proposed its own actions on tropical deforestation (UK ICF, 2013:2). Abundant examples of this 'political commitment' were then listed, as follows:

> '... Indonesia has committed to work towards an ambitious reduction in greenhouse gas emissions of 26 percent by 2020... rising to 41 percent with international assistance. Brazil has committed to a 36 percent reduction from business as usual by 2020, including an 80 percent reduction in deforestation in the Amazon and a 40 percent reduction in deforestation in the *cerrado*. Colombia has set out an ambitious goal to reduce deforestation its Amazon region to zero by 2020. Many African countries, including Ghana, Liberia and the Congo Basin countries are implementing important forest sector governance reforms' (ibid.).

Examples from other environmental problems demonstrate both how and why consuming country governments have accepted responsibility. For instance, with respect to the blue fin tuna trade, an endangered species of which Japan is the world's largest consumer, a [Japanese] Chairman of the International Commission for the Conservation of Atlantic Tunas stated in 2005 that '[Japan] feels some responsibility for this mess. Japanese buyers are running all around the world and buying as many fish as possible' (Revkin, 2005).

More recently, and less explicitly, the current US President, Barack Obama, released the US' National Strategy for Combating Illegal Wildlife Trafficking, noting that '[illegal wildlife trafficking] is a global challenge requiring global solutions' (Obama, 2014:1). At the same event, the Conference Declaration concurred that 'action needs to be taken at all points along the illegal supply chain in source, transit and destination countries. International cooperation is essential' (London Conference Declaration, 2014:3).

Knitting together these examples from both within and beyond traded deforestation, the blue fin tuna example provides a clear and important exception for not relying on the *illegality* of the trade in question. (A later section in this chapter will note how governments have tended to actively frame and respond to the environmental problems of international trade as legality – rather than sustainability – problems. Using participants' perspectives, Chapter 6 will then expand significantly on the importance of legality in the minds of consumer country governments.) An important commonality across the above examples, however, is the language of a need for a 'shared' or 'global' commitment from both producer and consumer countries to addressing illegal logging. Yet tellingly, governments have refrained from making similar statements (and indeed, responding) on the non-timber commodities connected to traded deforestation, despite clearly pronouncing concern for deforestation.

A partial explanation is obvious. For reasons that – again – Chapter 6 will expand on, other commodities, and especially palm oil, evoke severely defensive producer government reactions to perceived threats to those industries. In this charged environment, even recent research identifying widespread legality within the palm oil sector (Lawson, 2014) is unlikely to be sufficient to create the possibility of a 'shared' or 'global' commitment for responding to non-timber commodities such as palm oil. The result of these tensions for present purposes is that responsibility is accepted by both producer and several consumer governments, but only for timber, while for the other deforestation commodities the picture is more mixed. For palm oil in southeast Asia, neither producer nor consumer governments has been as forthcoming with their language, nor responses, while for beef and soya, the major producer country – Brazil

– has been notably attentive, while consumer governments – including both China and the EU – have not.

A second level of responsibility rests across actors *within* consumer countries, including governments (as regulators and procurers), traders, manufacturers and retailers, and floating in the background, consumers. (As Chapter 1 noted, other actors, such as banks, and other actor roles, such as government aid programs, are excluded from this study.) This section will demonstrate that there is also an unsettled allocation of responsibility at this level. Beforehand, however, an obvious point needs noting, namely that the mere existence of this study's responses demonstrates that unsettled responsibilities have not prevented actors from responding to traded deforestation. Clearly the limitation that unsettled responsibility might suggest is not absolute; yet as empirical chapters 5 and 6 will demonstrate, it has left the door open for both NGOs and governments to largely pin responsibility for traded deforestation on the private sector, which has its own implications.

Within consumer countries, responsibility is sometimes accepted explicitly. Nestlé's statement from the previous section provides one example where responsibility was accepted, and other such statements have been made by both industries and governments. The Dutch Palm Oil Taskforce, for instance, acknowledged that it shared 'joint responsibility' along the palm oil supply chain as a basis for its target that 'by the end of 2015 all palm oil destined for the Dutch market has to be sustainable' (Taskforce, 2010:1-3). Recalling this chapter's exploration of coverage, one interesting point about the Dutch Taskforce's commitment is that it relates only to the volumes of palm oil that are consumed domestically, while the larger volumes that the Dutch industry imports for onward trading are exempt (ibid.).

Governments have also articulated their contentions about responsibility, both explicitly as well as implicitly within the design of their policies. For example, in a speech in April 2012, the UK Development Minister argued his government's rationale for acting against tropical deforestation as follows:

> "...this British passion for trees extends overseas, and there is deep public concern about the loss of tropical forests. Given this passion, it makes little sense for us to contribute indirectly to the destruction of forests through everyday purchasing decisions. The same applies to the UK Government" (O'Brien, 2012).

This argument provided the basis for the UK Government's Palm Oil Statement (DEFRA, 2012a), which included provisions for public procurement of that commodity. While this Statement set out something of a 'society-wide' response to palm oil's implication in tropical deforestation, it

remained voluntary to sign up, which attracted criticism, including from companies that had already made more ambitious policy objectives than that contained with the Statement (Scott-Thomas, 2012). (The 'mandatory versus voluntary' aspect of responses is expanded on below.)

A revealing case study into the allocation of responsibility within consumer countries can be found in the three responses to illegal logging that have been introduced by the US, EU and Australia. As already noted, a source of contention of these regulations derives from the fact that they *impose* the responsibility for due diligence onto domestic businesses; government itself has only a regulatory, monitoring and enforcement role. But even across the three sets of laws, a discrepancy exists in the actors to which responsibility is allocated, and degree to which they can be found culpable (Brack and Buckrell, 2011). Specifically, the Lacey Act is designed such that *any* actor along a timber supply chain can face prosecution for failing to exercise due diligence, although notably this responsibility is differentiated by knowledge (ibid.). In contrast, the EU TR and Australian Prohibition apply only to importers ('timber operators') and *not* to subsequent purchasers; EU traders and downstream actors are nevertheless required to keep records of their shipments for traceability purposes (ibid.).

In designing illegal logging laws, governments have simply had to take a stance on where responsibility is allocated. For the other commodities connected to traded deforestation, to which consumer governments have generally devoted scant attention (and not yet enacted regulatory responses), governments have instead emphasised the 'primary' responsibility of the private sector. Sometimes this claim rests on the 'can implies should' argument that because major companies have the *opportunity* to act on international supply chains, responsibility therefore lies with the private sector. The UK Government, for example, states in its 'Forests and Climate Change' discussion paper that,

> 'The private sector is the primary agent of change across many forest landscapes... and [it] offers an opportunity to reach farmers, land owners and land managers with a degree of scale and efficiency that the public sector cannot match...' (UK ICF, 2013:2).

Yet the UK Government has at other times appeared to claim the lead role for itself, exhorting the private sector to join in with its efforts. For example, in 2012, speaking to a meeting of the private sector and civil society, the UK Development Minister expounded his view,

> "And that takes me on to my third point, which is to recognise that the public sector can't do this alone, and to challenge you to work with us to make a real and lasting contribution to halting deforestation" (O'Brien, 2012).

Similarly, in making the announcement of the Palm Oil Statement that same year, the UK Environment Minister claimed that:

> 'The Government is leading the way by ensuring that only environmentally friendly sourced palm oil is used in its central food and catering services' (Benyon, 2012).

This minister then appeared to recognise, however, that UK business were both already contributing and would need to contribute further, saying,

> 'Producers, manufacturers and charities will continue working together to speed up the move to 100% sustainable palm oil in everyday products' (ibid.).

The notion that the UK government is 'leading the way' with palm oil procurement is hard to sustain, unless that statement is a reference to the inaction of *other governments* rather than a comparison to the responses of private sector actors within and beyond the UK. Further, the dependence of the UK Government's procurement on the RSPO standard, which suffers numerous environmental shortcomings, makes it a considerably weaker procurement policy than the UK Government has for timber, for example.

Yet the Environment Minister's second statement – implying that the private sector would need to take further responsibility – seems to be consistent with a broader trend of governments casting themselves in a supporting role on traded deforestation, with company-driven efforts playing the lead. For example, when it joined with the Consumer Goods Forum to create the Tropical Forest Alliance, the US Government explicitly stated its intention to 'conduct private sector outreach' and 'discover opportunities for enhanced collaboration' to reduce deforestation (USAID, 2012). As comfortable as this rhetoric may be for governments, the form such collaboration takes or results it produces remain difficult to identify, in any jurisdiction. (Chapter 6 will explore some of the reasons for, and shortcomings of, the TFA in relation to the undefined role of the US Government.)

Governments, then, appear to be conflicted by the differing conclusions reached at the two levels of responsibility. They accept that they share some responsibility for tropical deforestation, along with producer governments, yet – beyond public procurement responses for timber – they have primarily interpreted their role as offering ill-defined 'support' for the private sector. Vermeulen and Kok (2012) note both this general patterns and its importance, finding:

> '...examples of state actors seeking to promote the self-regulating capacity of private parties, stimulating them to tackle sustainability issues that are considered collective

problems (Glasbergen and Groenenberg, 2001). In doing so, private parties from the market and from civil society are assigned a more prominent and – important here – sometimes even a protagonist role in the public arena' (p185).

When regulatory options are excised from the possible means of support, which the US Government explicitly demurs on within the TFA (TFA, 2013), the role of protagonist falls by default to the private sector (and subsequently, as Chapter 5 will demonstrate, civil society).

It is probable that the unsettled nature of responsibility within consumer countries has played a primary role in spurring a *range* of actors to respond, through a *variety* of response-types, to traded deforestation, generating this study's 'age of experimentation' over the last two decades. Yet in concluding this section on responsibility, it is safe to conclude that the proliferation of responses might have been largely averted had responsibility been situated decisively with any actor, even the private sector, but even more so with the public sector. For this study's larger purpose, the important question here is whether the current diversity of actors and responses has *expanded* or *limited* the contribution that responses can make to slowing tropical deforestation. While this question is merely noted here, the following section of this chapter as well as multiple empirical chapters will develop it further.

Two dichotomies

Comparisons across responses to traded deforestation reveal two further aspects worthy of examination. Each of these aspects relates to a dichotomy, firstly, between whether responses are mandatory or voluntary, and secondly, whether responses take legality or sustainability as their reference point. Identifying where any given response sits in relation to each of these aspects looks straightforward at first. Clearly, for example, illegal logging laws place a *mandatory* burden on timber importers (and in the US, subsequent traders) to exercise due diligence on the *legality* of the timber products they trade. Yet in other instances responses' positions on these aspects is more blurred. For example, although the timber procurement policies of the governments of Japan, New Zealand and the UK require, or mandate, the legality of all wood products, they also express a *preference* for *sustainable* timber (Brack, 2008).

Considering the mandatory versus legality dichotomy first, multiple examples demonstrate how what on paper appears to be mandatory responses in turn depends on other factors, such as enforcement and funding. On joining the RSPO (which companies do voluntarily), for example, it is then *mandatory* to lodge a 'time-bound plan' for all of a company's plantations or purchases to comply with the RSPO's principles and criteria. Despite this requirement, however, compliance

rates have been consistently low, while policies are often either patchy and go unimplemented. The RSPO has been reluctant to suspend memberships on this basis; at the time of writing this had only occurred for one palm oil producer (Mongabay, 2014c) while a few others have been issued ultimatums (Duff, 2010). The 'mandatory' nature of the RSPO's time-bound plans is therefore more tenuous than its requirements – on paper – would suggest.

For company sourcing policies, which are usually announced and implemented individually, a degree of uncertainty also lingers over the prospects for enforcement. In these cases, the clarity of the targets (eg. 100 percent certified palm oil by 2015) is nonetheless threatened by their self-imposed nature. (The extent to which these commitments will fall short remains unknown, of course, because – for palm oil – the general deadline of end 2015 has not yet been reached.) The prospect that companies might either fall short or weasel out of these commitments become more likely with the discovery that most RSPO purchasers, for example, currently demonstrate their compliance through purchase of paper-only 'GreenPalm' certificates, rather than through deeper engagement with the physical sustainability their own supply chains. (Chapter 7 will identify such engagement as a necessary precursor to robustly addressing traded deforestation). Indeed, even joining the RSPO in the first place can be seen as a strategy to deflect criticism, if no accompanying actions are taken towards addressing a company's underlying connection. The WWF, wise to this possibility, has announced that consuming RSPO-certified palm oil is no longer sufficient in itself (in Mongabay, 2013b).

For illegal logging regulations in the US, some allege that 'mandatory' due diligence has been undermined – albeit through a different route – in the political repercussions following the Gibson raids. As described earlier in this section, by denying adequate funding to the agencies that undertake monitoring and enforcement (Boucher et al., 2011), the ability of the legislation to achieve its objectives is destined to suffer. Here too, then, a purportedly mandatory response actually occupies a slightly blurred position along a spectrum between mandatory and voluntary.

One question to emerge from this discussion (captured in Table 4.1) is: 'To what extent might the mandatory or voluntary nature of responses affect their potential?'. While intuition suggests that mandatory responses should be stronger and therefore capable of a greater contribution to slowing traded deforestation, Chapter 7 will introduce evidence to suggest that – at least initially – a voluntary approach might lead to greater positive change by enabling stepwise (learning) approaches.

A second dichotomy exists between those responses that take legality and those that take sustainability as their reference point. For reasons foreshadowed above, and delved into in

much greater depth in Chapter 6, governments have displayed a bias towards legality in their responses to traded deforestation. As cases in point, each of the US, EU and Australia's illegal logging laws has the stated intention of addressing traded deforestation, yet focuses on the narrower problem of illegal logging. Although some legal logging may be unsustainable, and some illegal logging may be sustainable, there is generally considered to be a significant (though unquantifiable) overlap between illegal logging and unsustainable logging (Cashore and Stone, 2012). (As Chapter 1 noted, the relationship between forest clearing and logging, whether legal or illegal, is also complex, with time lags compounding the dynamic and making attribution difficult.) As a result of these complexities, responses targeting illegal logging alone are at best likely to be some help in contributing to slowing deforestation, while falling short of what equivalent responses oriented towards sustainability might achieve.

For the other commodities implicated in deforestation, the challenges pertaining to the legality versus sustainability reference point are of a greater order. Even generating agreement on definitions for 'illegal' palm oil, beef or soy agriculture is difficult (Brack and Bailey, 2013), although recent research (Lawson, 2014) has sought to overcome important obstacles (including definitions) that lie in the way of the design and subsequent implementation of future responses. As alluded to earlier in this chapter, and as this study's empirical chapters will firmly show, the political sensitivities surrounding these industries are also much greater than those for timber. For these reasons, rather than an absence of illegality in these industries' practices and trade, it is unlikely that current regulatory approaches for timber – chiefly, illegal logging legislation – will be replicated for agricultural commodities.

As with the dichotomy between mandatory and voluntary, one obvious question to arise from the above discussion is whether responses that use sustainability as a reference point hold an inherently greater potential to address traded deforestation than those that instead use legality. This question is captured in Table 4.1, and it is developed further through the use of participants' insights, especially in chapters 6 and 7.

Interactions between responses

The above comparisons across responses are enabled by this study's effort to gather them together as a set, on the basis of their shared objective and shared use of international supply chains as their mechanism. This section builds on the comparisons made in the previous section by exploring how responses fit together as a set, through specific attention – here - to their formal interactions. The section will begin by grounding this holistic enquiry in 'regime complex' theory (and to a lesser extent, 'poly-centric governance theory'), which raises a critical – and

this chapter's final – question of responses to traded deforestation. In examining how responses interact, this section will note a distinction between the two broad 'roles' that responses perform. In its deliberate exploration of the nature and consequences of interactions between responses, this section commences a critical task that will be returned to empirically throughout in the remainder of this study.

Regime theory: A potted history

The task of gathering together this study's set of responses can be usefully understood with reference to two recent contributions to 'regime complex' theory. Writing about responses to climate change, Keohane and Victor (2010) note that, 'the structural and interest diversity inherent in contemporary world politics tends to generate the formation of regime complexes', which involves a multitude of individual responses with 'no overall architecture that structures the whole set' (p2). Responses to traded deforestation strongly reflect this explanation for why regime complexes emerge. Citing not just 'differences in interests', these authors also refer to 'lack of strong hierarchical authority in the issue-area, uncertainty about effects, and contrasting beliefs about responsibility for damage' as reasons leading to the proliferation, and fragmentation, of responses (p16). These reasons are clearly consonant with several of this chapter's findings, including actors' multiple motivations for responding to traded deforestation, the range of actors and variety of responses that have emerged, as well as the unsettled responsibility for responding. In addition, and just like Keohane and Victor's discussion of climate change, traded deforestation is also a 'multivalent' problem, meaning one that contains multiple values and is therefore open to multiple interpretations (Marshall, 2014:94).

These characteristics of responses to traded deforestation have similar consequences as have emerged for the responses to climate change examined by Keohane and Victor. Specifically, the characteristics of traded deforestation have been instrumental in creating what Chapter 2 referred to as an 'age of experimentation', characterised not just by a proliferation of responses but also by a lingering uncertainty over both what these responses are capable of achieving and how they might achieve it. For climate change, Keohane and Victor write that 'efforts [to respond] are akin to the Cambrian explosion—a wide array of diverse institutional forms emerges, and through selection and accident a few will be chosen' (p9). Evidence will soon be introduced to test this latter suggestion – that 'a few will be chosen' – but suffice to say that the design of some responses, such as the PEFC and POIG, already suggest that consolidation is already underway among deforestation responses.

Building on Keohane and Victor (2010), and again writing in relation to responses to climate change, Abbott (2011) notes that,

> 'Some less desirable effects predicted by [regime complex] theory may also arise among transnational schemes. For example, the creation of multiple [carbon] offset and commitment schemes reflects *regime shifting*, in which norm entrepreneurs move issues to new forums in pursuit of desired standards. The resulting proliferation increases fragmentation and transactions costs' (emphasis in original; p584).

Here Abbott is arguing that the proliferation of responses to climate change may not be cost-free, and the 'interest diversity' that Keohane and Victor identify as causing the fragmentation of governance responses may in fact *compromise* the collective potential of those responses. Others have been led to ponder similarly, with Bernstein and Cashore (2012) asking whether 'different influences along different pathways... [might] interact in productive ways... or conversely, produce fragmentation or work at cross-purposes' (p603). Posed as a question for this study, the insights of all of the authors above can be condensed as follows:

> 'Do responses behave in ways that are *complementary* or mutually *inhibitive*, to achieve their shared objective of addressing traded deforestation?'

Recall that this question was introduced above in relation to whether the unsettled nature of responsibility had led to the proliferation of responses for traded deforestation. In the form it is presented here (and captured in Table 4.1), this question guides much of the analysis that follows in this section, and returns as a strong theme in the study's empirical material. Indeed, one of the primary achievements of this study's collecting together of responses is its ability to discern and respond to this question. In the absence of interactions between responses, of course, research conclusions on any given response could simply be tallied up across responses. Yet more complex dynamics can now be uncovered and explored.

It can now be asked, for example, whether there might be some *benefits* to fragmentation. Keohane and Victor (2010) note both flexibility across issues and adaptability through time as possible benefits, though they maintain that these 'do not arise automatically' (p19). A related literature – polycentric governance theory – 'suggests that an array [or set of responses] can produce effective collective action, support learning, and to some extent function as a coherent system' (Abbott, 2011:586). Chapter 7 lends some support to these claims by identifying the importance of learning, both between responses and actors, as one pathway for responses to achieve a positive influence beyond their coverage.

However, Abbott (2011) is similarly tentative about the inevitability of such benefits arising. He notes that,

> 'Of course, neither polycentric governance nor small-scale action is guaranteed to resolve complex problems such as climate change. If nothing else, actions at larger scales are necessary to control 'leakage', free-riding, and other pathologies' (p585).

Recalling the insights from consumption literature introduced in Chapter 3, these 'pathologies' are equally applicable here: leakage (or 'displacement') has already been discussed at length, both in Chapter 3 and earlier in this chapter, and free-riding is an established problem in many NGO-industry Roundtables (noted and explored further in Chapter 5 and 7). Further, should the proliferation of responses prove to be detrimental to, or limiting on, attempts to address traded deforestation, this would clearly qualify as an additional pathology. Finally, according to regime complex theory, some way of 'orchestrating' (Abbott, 2011:584) fragmentation could be pursued. This study will delve into the possibility that some orchestration may occur, both directly and indirectly, with Chapter 5 exploring the prospects for consolidation among responses, while Chapter 6 will illuminate the constraints on governments which may prevent them from assuming a role as regulators (for which, read 'orchestrators').

Tools and drivers

Before examining specific examples of formal (and less formal) interactions between responses, one important distinction must be made between the two broad *roles* that responses perform. Although Chapter 1 introduced this study's policy, regulatory and institutional responses as comparable on the basis of their objective and focus, a necessary distinction can be made between, on the one hand, responses that act as a *'tool'* for demonstrating and verifying improvements in international supply chains, and on the other, responses that act as a *'driver'* of these improvements.

Interpreting the roles of individual responses can sometimes be straightforward. Institutional responses, for example, generally act as *tools* for improving – and demonstrating – the legality or sustainability of commodities within supply chains. Specifically, certification schemes (such as those endorsed by the PEFC) are used by companies and governments to measure and demonstrate the legality or sustainability of their timber supply chains. On the other hand, many policy and regulatory responses – such as corporate and public sourcing policies, biofuels frameworks, illegal logging legislation and labelling legislation – generally act as *drivers* of

changes to supply chains. These drivers often draw on one, or several, tools to demonstrate these improvements.

Some responses actually perform both roles simultaneously. NGO-industry Roundtables such as the RSPO and RTRS, for example, develop a certification system (a tool) but also create a membership-based 'Roundtable' that encourages companies to enact policies (drivers) for further uptake of that system. Similarly, the EU's FLEGT program (FLEGT licences, none of which have yet been issued) creates a tool to recognise the legality of forest products from specific countries. At the same time, FLEGT acts as a driver for that tool by actively engaging in partnerships with producer countries to strengthen forest governance, as well as by ensuring that any future FLEGT licences will be recognised under the EU's illegal logging laws.

One response – labelling legislation – does not appear to fit neatly as either a tool or driver. Both versions of the failed Australian legislation were intended to require palm oil to be specifically labelled, rather than permit it (like other oils) to be listed generically as 'vegetable oils'. (The EU legislation enacts a much broader reform of labelling laws, which happen to also achieve what was sought by the Australian legislation.) Neither the Australian nor EU legislation requires the uptake of any scheme (tool), such as RSPO-certified palm oil, instead seeking to ensure more specific labelling of ingredients for consumers. However, as the speeches made by its proponents clearly show, the various permutations of the draft Australian labelling laws were *intended* to act as a driver for improvements in palm oil supply chains, including – explicitly – uptake of RSPO-certified palm oil (Xenophon et al., 2009).

Mapping formal interactions

Formal interactions between this study's responses usually involve a driver and at least one tool. A stereotypical interaction, for instance, would involve a company sourcing policy committing to (and then demonstrating) improvements to its supply chain through the uptake of certified commodities. This is the form taken by many companies' commitments to '100 percent certified palm oil by 2015', for example, including Unilever and both major Australian supermarkets, Coles and Woolworths (Davidson, 2013b).

Unlike companies, the sourcing policies of many governments cannot legally require that products are certified by a given sustainability scheme (or schemes). This legal constraint is contained within the WTO's General Procurement Agreement (to which most EU member states are signatories), which requires that governments always allow for a non-certification ('alternative' or 'Category B' evidence) route to demonstrate compliance. A similar constraint –

albeit from a different source – is inherent within the US and EU illegal logging regulations, neither of which specifies schemes that would comprise sufficient due diligence (the EU in fact states that neither PEFC or FSC are 'sufficient in themselves'). As Chapter 6 explores, this constraint derives from EU and US fears that the WTO would interpret such a requirement as an unjustified barrier to trade. In the Australian illegal logging legislation, in contrast, both the PEFC and FSC are explicitly recognised as sufficient for due diligence, while an alternative route is also available to ensure WTO compliance.

In stark contrast to its illegal logging regulations, the EU's biofuels framework, RED, also establishes formal interactions with specific schemes. At the time of writing, 17 schemes had been recognised as sufficient for imported biofuels to qualify towards member states' mandated biofuels targets (EC, 2015b). The apparent contradiction between the EU's approach to illegal logging and biofuels is perhaps best explained by the fact that RED does not seek to affect *trade* in biofuels per se, since unlike illegal timber, biofuels that do not meet the standards can still be freely imported into the EU. Instead, RED simply determines the eligibility for biofuels that count towards the mandatory targets.

In practice, the absence of a *formal* interaction between 'tool' and 'driver' responses does not preclude informal interactions (sometimes with the exact same result) occurring in practice. If the Australian palm oil labelling legislation had been passed by the country's parliament, for example, it is highly likely to have generated an increase in demand for RSPO-certified palm oil (as Chapter 7 will note, at least one major multinational – Unilever – has publicly cited the EU's labelling reforms as a driver for its own commitment towards certified palm oil). A further example comes from procurement policies and illegal logging legislation, which cannot specifically require PEFC or FSC timber, yet these schemes still provide by far the dominant route for demonstrating compliance (Brack, 2008).

Indeed, there is also a dynamic aspect to the interactions between schemes and drivers. The utility of the PEFC and FSC for timber procurement and illegal logging, for example, is not coincidental; both have adapted themselves to better suit these purposes. For its part, the PEFC strengthened its environmental criteria after it was initially assessed as insufficient for UK timber procurement policy (Steering Committee, 2012), while the FSC recently expanded its legal criteria to match up with the EU TR (Hontelez, 2012). The EU's biofuels framework provides further examples of schemes adapting themselves – indeed, creating separate standards – which culminates in a formal interaction. A collaboration between the EU and the RSPO, for instance, resulted in the 'RSPO-RED', which contains additional criteria for greenhouse gas emissions, as well as protection of peatlands and high value forest. Both 'RSB-

RED' and 'RTRS -RED' schemes have also been created. These dynamics are potentially examples of drivers stimulating influence beyond coverage, which Chapter 7 is dedicated to exploring.

The above examples demonstrate an inconsistent approach on the part of governments to formally interacting with sustainability schemes. However, formal interactions are prevalent between government drivers (policies and regulations) and *government* tools. The EU's illegal logging regulations, for example, accept that 'FLEGT-licensed products and CITES products with valid permits and licences are by EU TR definition legal' (EC, 2013c). Some public procurement policies, such as the UK Government's timber policy, similarly accept FLEGT licences, though this is due to expire in 2015 when a requirement for sustainable timber becomes active. (These drivers accept FLEGT timber in large part so they do not undermine the incentives for timber-producing countries to engage with the EU through its FLEGT platform; ibid.)

The EU TR is also designed to formally interact with – i.e. recognise and accept – CITES licences, a decision that effectively 'out-sources' the robustness of the EU TR to an external tool. This relationship differs from the EU TR's formal interaction with FLEGT licences because in the latter case the EU itself approves a timber-producing country's system. In contrast, CITES licences can be created by any 'range state' government (CITES, 2013), with the consequence that default acceptance of CITES-licensed timber may jeopardise the EU TR's intent. Adverse outcomes could result from the potential forgery of CITES licences and corruption in relation to CITES, as well as the more nuanced possibility that the EU TR's acceptance of CITES may shift timber demand *towards* those (already threatened) species that are CITES-listed (Cooney et al., 2012).

Finally, formal interactions also occur beyond the standard driver-tool model, for instance through alliances between schemes. The PEFC is an obvious example, since it is essentially an umbrella scheme that certifies (or 'endorses') national timber industry standards to create an internationally-recognised scheme. In 2013, the PEFC endorsed the Malaysian timber standard, the MTCC, and it endorsed the Indonesian and Chinese standards the following year (PEFC, 2014). In a similar dynamic to the EU TR's recognition of CITES, however, the ability to combine PEFC-certified timber from multiple sources means that this timber can only be guaranteed to the level of the PEFC's weakest recognised scheme. Another example of an umbrella scheme is the International Standards Evaluation and Assessment Labelling (ISEAL) Alliance, which is a grouping of schemes across commodities – including the FSC, RSPO and RSB – that aims to 'strengthen sustainability standards systems for the benefit of people and the environment' (ISEAL, 2014). Formed in 2009, individual schemes can apply for ISEAL membership and must

demonstrate compliance with the ISEAL Codes of Good Practice and represent industry best practice.

Already these examples reveal several notable characteristics of interactions between responses, some of which are reiterated and emphasised in the empirical material of subsequent chapters. The political nature of companies formally interacting with ('recognising') schemes comprises the entirety of Chapter 5, which identifies the benefits for – and unlikeliness of – greater coordination, if not harmonisation, between schemes. The sensitivities and constraints on governments deriving from the WTO and other sources comprise Chapter 6, which concludes that the legal constraints of the WTO are not the root cause of consumer government trepidation. Finally, an effort to identify *informal* interactions between responses – the pathways through which responses influence one another – comprises Chapter 7.

Trends in interactions

To reiterate, this section's introduction of regime complex theory poses a clear question for traded deforestation: 'Do responses behave in ways that are *complementary* or mutually *inhibitive*?' If it were a straightforward case of 'the more responses, the better', then the ongoing experimentation with new responses could be welcomed by all actors concerned with the problem of traded deforestation, since each additional response could only assist in addressing it.

Yet there are at least two reasons why caution is warranted, pertaining respectively to new drivers and tools. Firstly, the 'age of experimentation' that Chapter 2 identified as characterising the last two decades has only intensified in the latter decade. Many of the more recent responses, including illegal logging legislation and the reinvigoration of CITES, have introduced legality as a benchmark, rather than adhering to and advancing the already-established reference point of sustainability. It seems at least conceivable that illegal logging legislation (and some public procurement policies) may detract from deeper changes desired in relation to the *sustainability* of timber harvesting from tropical forests. On the other hand, such responses could provide additional momentum to existing, sustainability-focused responses, such as illegal logging appears to have done for the FSC and PEFC to date. The point to be emphasised, then, is that the answer to whether these new driver responses complement or inhibit existing responses *depends in turn* on the subsequent question of whether timber legality comprises a constructive step towards sustainability, or simply provides a lower benchmark. Chapter 7 will provide some evidence on this latter question, in order to sketch out an answer to the former.

Secondly, with respect to new tool responses, it is undeniable that some of these act as competitors with existing 'tools'. Some responses, such as the PEFC, as well as several national level legality schemes in producer countries, were explicitly designed with the intention of competing with existing schemes (Djama et al., forthcoming). But competition can also yield improvements to schemes (such as the widely-cited case of the PEFC's evolving standard). So again the verdict appears elusive when approached conceptually. As both Chapter 5 and 7 will demonstrate empirically, however, there are examples where competition has both improved schemes' potential contribution to slowing deforestation as well as inhibited it. Chapter 5 will conclude that harnessing the positive side of competition can be made more possible through changes in actor behaviour.

To summarise, then, both new driver and new tool responses can either complement or inhibit existing responses (or both), with mixed results for the collective potential of the set. The proliferation in responses over the last decade has shown some signs of being tempered, such as the CGF looking to avoid replicating existing responses and the POIG explicitly opting not to create a rival scheme to the RSPO. These examples suggest that actors are at least becoming aware of the potential disadvantages – for the overarching objective of responding to traded deforestation – that accompany even the existing multitude of responses. In relation to the overall question of complementarity, however, the effects of the expansion in both new tool and new driver responses are in some cases only beginning to be observed. This study will now turn to the analytical contributions it seeks to make empirically on these questions.

Conclusion

This chapter has examined the conceptual nature of responses – their framing and design, the motivations behind them, and their interactions – to determine how these features could affect responses' potential contribution to slowing traded deforestation. A number of limitations were soon evident in responses, beginning with their framing of the underlying 'problem of deforestation' and their subsequent blind-spots, as well as in the inherent limitations posed by responses' incomplete coverage of both commodity production and international supply chains for any given deforestation commodity.

The chapter then shifted its analytic focus to the collective, first comparing several consequential aspects of responses before turning to the implications of their formal interactions. From these explorations many further questions emerged and were clarified, before being tabulated in Table 4.1. These questions are best characterised as a set of

sub-questions that will or could bear on this study's primary research question about responses' limitations. Not all of these sub-questions are pursued further by this study, although further discussion ensues where pertinent empirical material is raised by participants (as also marked in the table). Questions that are not pursued directly are perhaps best considered as 'rabbit-holes'; that is, they are recognised by this study as being of some significance but necessitate a more thorough exploration than time, space and material afford here.

On the other hand, some of the sub-questions that emerge from this chapter's findings *are* pursued directly in the chapters that follow. Specifically, Chapter 5 will expand on one particular form of interaction – namely, that between company sourcing policies and sustainability schemes – to analyse whether the consequences of these interactions are productive for responses' contribution to slowing deforestation. In turn, Chapter 6 explores the behaviour of governments and identifies perceived constraints and sensitivities that have shaped this behaviour, including discovering why government responses tend to be legality-focused. Finally, Chapter 7 is devoted to extending and identifying pathways of influence through which responses might overcome the limitation imposed by coverage. In doing so, this chapter also advances its examination of one of its major contributions: the various forms and consequences of interactions between responses.

Chapter 5 The Politics of Recognition

This chapter marks the beginning of this study's empirical approach, which critically examines the perspectives of participants so as to better understand the behaviour of responses and the consequences that emerge from those behaviours. This chapter uses company sourcing policies as a lens through which to understand the tensions inherent in private sector and civil society responses to deforestation. (Quotes from empirical material will be interwoven through this chapter's examination of that subject, as explained in Chapter 2's Methods section.)

This chapter undertakes two tasks: firstly, it conducts an indicative survey of company sourcing policies and reveals the variety of relationships they have established with sustainability schemes. These relationships are referred to as 'recognition strategies' and are formalised into a typology. The significance accorded to these strategies by other actors, notably schemes and NGOs, hints at the politicised nature of sourcing policies as well as their consequences for the behaviour of others. Exploring these aspects – or what could be called the 'political economy' – of sourcing policies, is this chapter's second task and is undertaken using the typology's recognition strategies as a platform.

This exploration will highlight the dynamics of competition between schemes, and the importance of both different recognition strategies and NGO behaviour in shaping that competition. The chapter will conclude that, in light of certification's well-known limitations, at least some part of the dynamics surrounding sourcing policies has become a distraction from more productive contributions that actors could make to slowing deforestation. Despite this conclusion, however, actors are nonetheless behaving rationally in pursuing valid objectives at the individual level, meaning that short of dramatic changes to this *context* of competition, the scope for implementing substantial change in overall dynamics is limited.

Company sourcing policies

Chapter 3 highlighted the increasing concentration of power in global supply chains at the nodes occupied by major retailers and branded manufacturers. As that chapter noted, this concentration has been identified by some actors as an opportunity to leverage social and environmentally-focused changes to distant production practices (eg. Conca, 2002). In the words of a Greenpeace activist quoted in Gereffi et al. (2001), for NGOs the ability to campaign directly against companies 'was like discovering gunpowder' (p64).

One of the first major subjects of these campaigns were companies' sourcing of timber. As Chapter 1 detailed, for the first decade following the creation of the FSC (and marginally later, the PEFC), these schemes and related company sourcing policies for timber effectively comprised the entirety of supply-chain focused, downstream responses to deforestation. After the FSC had been formed, NGO campaigns suddenly had an explicit goal for the companies they campaigned against: to pressure them into committing to FSC-only sourcing policies. Many of the first sourcing policies, then, were enacted after companies were targeted by such campaigns. And as the RSPO emerged from 2004, so campaigns were able to pressure companies to adopt a simple commitment on palm oil sourcing (about which, more to come).

Whether as a direct result of NGO campaigns or from other motivations, large numbers of companies have adopted sourcing policies for the deforestation commodities. Given the processes of globalisation that, as Chapter 3 canvassed, have made company supply chains 'vital leverage points' for sustainability (Dauvergne and Lister, 2012:42), this would seem to be a promising – and straightforward – trend among downstream responses to deforestation. However, research into the way that companies currently approach sustainability (eg. Dauvergne and Lister, 2012; Gouldson and Sullivan, 2013) has often reached pessimistic conclusions on their prospects. The conclusions of these authors 'caution against relying on... voluntary company commitments, noting that their scope is limited' (Gouldson and Sullivan, 2013:1) and that companies' 'aim is to leverage sustainability for business growth while... reducing the intensity of environmental impacts' (Dauvergne and Lister, 2012:36). In other words, companies generally focus on improving efficiencies and reducing product intensities without attending to total *volumes* of impacts. Chapter 3's noting of the magnitude-blindness of current responses, and its potential to undermine their effect, is therefore echoed in these authors' research.

Other research (eg. Bloomfield, 2014) has highlighted the limitations of the NGO 'shame campaigns' focused on particular companies, even as these campaigns result in promising and demonstrable commitments from individual companies. High-profile examples of success include, for instance, Disney's sourcing policy (Disney, 2012) for the paper used in its children's books following sustained advocacy from the Rainforest Action Network (RAN, 2011), and Nestlé's 'Commitment on Deforestation and Forest Stewardship' (Nestlé, 2011) and later Responsible Sourcing Guidelines (Nestlé, 2012, Nestlé, 2013) for multiple commodities after Greenpeace's palm oil campaign against it (Greenpeace, 2010). Yet even these successes, which are widely respected, do not disprove authors' bigger picture conclusions that NGO campaigns can have a distorting and distracting effect on private sector-civil society dynamics (Bloomfield, 2014). As this chapter will demonstrate, these dynamics emerge from actors pursuing

individually sound objectives, yet collectively they can be less than conducive towards robust, consistent responses to slowing deforestation.

The design of company sourcing policies

For companies seeking to source, measure and demonstrate their disconnection from deforestation, numerous pathways are available. One immediately obvious pathway – substituting away from a given problematic commodity – is rarely taken up, and usually only by minor users of a commodity. For example, the Australian branches of two global companies, Kentucky Fried Chicken and Cadbury, stopped using palm oil after initial trial periods (Gray, 2012; Davidson, 2013a). Arguably, the rarity with which companies have opted for this pathway reinforces Chapter 3's finding that the problem of deforestation has been framed by downstream actors in such a way that the subject of governance is problematic *versions* of commodities, rather than the straightforward use of those commodities (or other alternatives). The 'message' for companies implicit in this framing is that they need only source unproblematic versions of these same commodities, rather than ceasing to use them altogether.

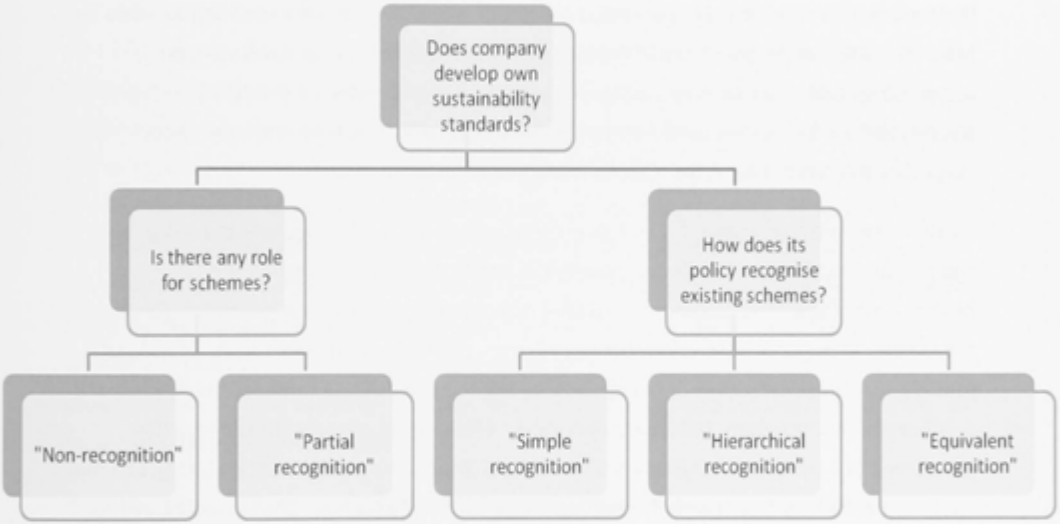
Another pathway through which companies can disassociate their sourcing from tropical deforestation is to work directly with their suppliers 'behind the scenes', changing production practices and securing supply chains against problematic versions of commodities. While this pathway is capable of achieving the underlying objective to *source* unproblematic commodities (and Chapter 7 will conclude that such engagement with suppliers may indeed be necessary), it has the disadvantage of not facilitating easy *measurement* and *demonstration* of progress towards legal or sustainable sourcing. Within the politicised context that surrounds the design and implementation of sourcing policies, including not only NGO pressure but also consumer concern, companies are understandably eager to be able to demonstrate their progress to external audiences. This eagerness is even more pointed in situations where companies are branded, high-profile multinationals, and consequently especially vulnerable to NGO campaigns. With few exceptions, then, the internal pathway for companies to disconnect their supply chains from deforestation is also rarely opted for.

There are two further pathways available, both of which meet companies' multiple sourcing, measuring and demonstrating objectives. These pathways are referred to in De Man and Ionescu-Somers's (2013) 'Practitioner's Guide' manual (see also Boucher et al., 2012; Steering Committee, 2012). The typology that this chapter will introduce, drawing on an indicative

survey of the sourcing policies of branded, high-profile companies, explores just these two pathways.

Figure 5.1 depicts these two pathways, and the five recognition strategies they encompass, in the form of a 'decision tree' from a company's perspective. For a given commodity, a company first decides between the two pathways outlined here and then opt for one of its recognition strategies. (Full definitions and examples of recognition strategies are provided in Figure 5.2).

Figure 5.1 Decision tree for companies deciding on recognition strategy



The first of these two pathways is also, to date, the most prevalent: where company sourcing policies establish and rely on direct relationships with sustainability schemes, such as the FSC or PEFC for timber, the RSPO for palm oil, and so on. The communication advantages of this pathway are instantly apparent, with companies able to identify a target of their sourcing to be certified (usually 100% by a given year) and report a percentage uptake against this. One more nuanced advantage, which will be elaborated on further in the discussion below, is being able to deflect responsibility for the robustness of a scheme's standard (and therefore a company's purchases) to the institution, rather than face these criticisms directly. Within this pathway, the typology identifies three, notionally-discrete 'recognition strategies' (Simple, Hierarchical and

Equivalent), each of which establishes specific relationships between a sourcing policy and relevant schemes. Briefly, Simple recognition entails sourcing from one scheme only; Hierarchical recognition entails sourcing from more than one scheme but with an established preference for one; while Equivalent recognition entails sourcing from multiple named schemes.

The second pathway captured by the typology refers to companies that create their own, notionally-independent set of sustainability criteria or standards for suppliers to meet, which are nonetheless made public. These standards are often framed as a (company-specific) 'scheme', 'model' or 'guidelines', as with Starbucks' 'C.A.F.E.' coffee programme, M&S' 'Model Forest Program' for timber and – particularly relevant to this study – Nestlé's Responsible Sourcing Guidelines. This pathway encompasses two discrete recognition strategies. Briefly, Non-recognition reflects a policy in which no relationship is established to existing schemes (eg. M&S' Model Forest Program); while Partial recognition denotes that schemes are later measured up against a company's independent standards and endorsed in full or part (eg. Nestlé's RSG for timber and palm oil). This pathway has been used even when pertinent sustainability schemes exist, for reasons that will shortly be discussed.

Further attention to the design of company sourcing policies, and particularly the recognition strategy they establish with relevant schemes, is timely. As Chapter 4 argued, with the proliferation of new 'tool' responses to traded deforestation there is an exponential increase in the number of possible interactions between drivers and tools. At the same time, awareness is growing that the proliferation of new responses has complicated and confused the dynamics of certification (Gulbrandsen, 2004; Saunders, 2010; WWF, 2010), that certification itself is hamstrung by a number of empirical and conceptual limitations (eg. Moog et al., 2012), and that NGO campaigns may be similarly flawed (eg. Wright, 2012; Bloomfield, 2014). Understanding how company sourcing policies for the deforestation commodities, and other actors' behaviour, create, exacerbate or attenuate these dynamics is essential to enable an understanding of how conducive these dynamics are for responses', and actors', contributions to slowing deforestation.

5 recognition strategies

This chapter provides a platform for discussing and analysing both the design and the consequences of company sourcing policies. The recognition strategies that companies opt for have nuanced implications for other actors, including schemes and NGOs, which in turn affects both their behaviour and the nature of their contribution to slowing deforestation. In making these dynamics more prominent, this chapter intends to advance discussion of sustainability

schemes beyond the overly simple formulation of 'X is stronger than Y in these areas'. To date no settled vocabulary exists for companies to form and communicate their policies. Such a vocabulary is needed, in turn, to allow other actors to understand, collaborate and hold companies to account for their sourcing of deforestation commodities. The five recognition strategies found in Figure 5.2 provide just such a vocabulary.

Recognition strategies are presented neatly in written company sourcing policies, and therefore in this chapter's typology. In practice, however, there can be a 'blurring' between strategies as they are implemented. (This blurriness itself partly reflects the lack of a common vocabulary to inform and guide policy formulation.) Two examples demonstrate how recognition strategies can differ in practice from their written form. Firstly, Nestlé's sourcing policy for timber states that, ultimately, 'no certification scheme is currently able to explicitly certify compliance with all the RSGs [Responsible Sourcing Guidelines], especially forests with high carbon values' (Nestlé, 2012:6). Yet that document concludes that because 'FSC certification is able to provide the most comprehensive verification of compliance with Nestlé's Forest RSGs' then it will 'therefore use FSC to demonstrate compliance' (ibid.). Nestlé's internalised "Partial" policy for timber thus morphs into something approximating an externalised "Simple" recognition strategy as it is implemented. Secondly, the difference between "Hierarchical" and "Equivalent" strategies can only ever be a matter of degree. Both strategies are 'inclusive', in the sense that they ultimately recognise two or more schemes, meaning that the distinction between them is determined by the effort or cost that a company with a "Hierarchical" strategy incurs before it is begins to accept supplies from its secondary scheme. In the absence of any effort or cost, the outcomes of these two strategies become identical.

However, while it is true that these strategies are often less discrete in practice than the language used in company sourcing policies allows (and reflected in Figure 5.2), important differences remain. Specifically, strategies differ in the signals they send to, and communicate about, sustainability schemes. As the empirical material below will demonstrate, it is by indicating their support (or otherwise) for individual schemes that sourcing policies can affect the perception of those schemes, and therefore affect the behaviour of other actors in relation to those schemes.

Company considerations

Before exploring the consequences of these recognition strategies, it seems justified to first ask why companies opt for the strategies they do. Clues to this explanation can be found in the

Figure 5.2 Recognition strategies, including definitions and examples.

occasions, as Figure 5.2 notes, where a single company chooses to adopt different strategies across the different commodities it sources. For its paper and board, for example, Nestlé has adopted a Simple recognition strategy for the FSC, whereas for its palm oil Nestlé has adopted a Partial recognition strategy for the RSPO (Nestlé, 2013). Similarly, Walmart has developed its own programme (a Non-recognition strategy) for beef and an Equivalent strategy for seafood (Walmart, 2013:69), while Unilever has a Simple recognition strategy for palm oil (Unilever, 2008) and a Hierarchical strategy for board and packaging (Unilever, 2010a). As De Man and Ionescu-Somers (2013) note, 'evidently, one company may be a 'leader' on one commodity and a 'follower' on others' (p39). Companies clearly do not feel bound to enact any single strategy across the commodities they source.

One frequently-voiced consideration for companies is a shortage in the supply of certified versions of commodities, in particular some FSC-certified timber products and RTRS-certified soy. (Outside the forest sector, the same shortage applies to wild-caught seafood.) For its board and packaging supplies, Unilever justifies its decision to 'rely on other certification schemes under the condition that our "Non-controversial Sources" requirements are met... in cases where FSC is not available' on the basis that 'there is not enough FSC material on the market at present, and FSC is challenging to achieve for smallholders' (2010b:2). Unilever's Hierarchical strategy therefore allows it to maintain a preference for FSC products while still accepting other certification schemes as required.

In an example from beyond the deforestation commodities, Walmart's Senior Vice President for Sustainability, Andrea B. Thomas, explains that company's seafood policy along similar lines:

> "We soon figured out that there wasn't enough MSC-certified seafood for us to meet the demand that we had. So we tried a broader approach, saying we'd sell certified seafood without specifying the certifying body. That still didn't get us enough seafood. We ultimately decided we could have the biggest impact by asking all of our seafood suppliers to start improving, knowing that they're all starting in different places" (Thomas, in McKinsey, undated).

Although barely conceivable, one alternative response to a shortage of certified supply would be to limit the volume of those products sold (simultaneously driving their price higher, possibly inducing further supply). If a company considered that FSC-certified timber and wood products, for example, really are the *only* acceptable versions of that commodity that it could sell, then it would need to restrict its sales in line with that shortage. Yet this reaction is clearly untenable, if conceivable, to companies like Unilever and Walmart, who maintain enormous product volumes.

These decisions provide empirical support for Chapter 3's finding that the prevailing paradigms within downstream countries, including continued expansion of economic growth and international trade, shape actors' framing of the problem of deforestation, inherently limiting their responses.

A second consideration in accounting for the diversity in strategies adopted is the fact that for any given company, not all commodities are likely to be equally important. Companies may therefore seek to become 'a 'leader' on one commodity and a 'follower' on others' according to their relative importance (as suggested by De Man and Ionescu-Somers, 2013:39). In other words, companies use a 'triage approach' to guide their attention on sourcing. Mars, for example, uses only small volumes of palm oil and instead concentrates its attention on its cacao purchases, where it purchases 12 per cent of global production (IDH, 2013). As Chapter 1 detailed, companies such as Unilever and Nestlé have publicly identified the commodities to which they intend to dedicate their attention.

A third consideration for companies is the critical point that not all sustainability schemes are alike. While there is a diversity across multiple aspects of current schemes, including their longevity and their significance (eg. familiarity and coverage) within the industry, the more important considerations within a politicised context are the robustness of schemes' standards and – in conjunction – their reputation. The FSC, for example, is usually held in higher esteem than the RSPO on the basis of its environmental and social criteria. Because one objective of company sourcing policies is to *demonstrate* a commitment to more sustainable sourcing, these differences in reputation can strongly affect company decisions. Given their role in pressuring and assessing companies' policies, NGOs' judgements of schemes are highly pertinent to company decisions, as acknowledged and explored later in this chapter.

These three considerations are by no means exhaustive, yet they hint at the mixture of pragmatism and politics that determine companies' approach to their sourcing policies and recognition strategies. As the first two considerations make clear, there are pragmatic considerations relating to the volumes of commodities that companies use, and their importance to a company's products. Undoubtedly, these considerations affect company choices of recognition strategies. Yet equally, there is a politicised *context* in which these choices are made, encompassing the judgements and campaigns of NGOs, the choices of other companies, as well as perceptions of relevant schemes. There are therefore multiple tensions that companies attempt to navigate through their design of sourcing policies.

Crucially for this chapter's exploration of the political economy of sourcing policies, while companies' choices of recognition strategy are not straightforward for companies, nor are the

consequences of these decisions straightforward for other actors. In establishing specific relationships to sustainability schemes, recognition strategies – especially those of large, high-profile companies – have consequences, firstly, for the behaviour of other actors, and ultimately, for the dynamics of private sector-civil society responses to deforestation. These dynamics are now explored through analysis of the empirical material collected for this study, beginning with two particularly polarising themes that emerged from these discussions and warrant consideration.

Polarising theme #1: 'internalising' versus 'externalising' values

Mirroring the two pathways encompassed by this chapter's typology, De Man and Ionescu-Somers (2013) state that 'there are basically two approaches' to sustainable sourcing: a company can either 'define its own sustainability criteria for a particular commodity, or it can use an existing standard developed by an external organisation' (p29). These two pathways represent the first juncture in the typology, as well as the first polarising theme to emerge from participant discussions.

Surprisingly, the literature on forestry sustainability schemes for the deforestation commodities are almost completely silent about the consequences of companies embarking down these two pathways. In constrast, participants held strong opinions on this decision, and the consequences that flow from it. One participant conceptualised the decision between companies designing independent standards or instead relying on existing schemes as *"one of internalising values or externalising them" [RW]*. The Forest Trust (2013) argues that designing independent standards is the only pathway through which companies can 'take full ownership of their sustainability performance, rather than externalising' their sourcing standards to sustainability schemes (p1). Indeed, there is some evidence that more companies are coming to view the environmental (and social) problems within their supply chains through this lens (Steering Committee, 2012), which is likely to have dynamics consequences for the momentum of schemes.

Advocates of independent standards see dangers in the alternative – and to date far more common – approach of relying on sustainability schemes: for example, that it can lead to *"complacency" [RW]* on the part of companies. Yet for some companies, the opportunity for complacency may actually be an *attraction* of some existing schemes. According to one participant working for a major multinational, many of that company's peers within the RSPO are *"happy to play the waiting game" [3]*. As this chapter noted earlier, the protection that Roundtables can provide is that no single company can be critiqued for the robustness of the a

consensus-driven organisation's standard, especially when it has many hundreds, if not thousands, of members. Undoubtedly this provides a level of cover for companies that are looking to defuse or deflect NGO attention without radically revising their sourcing of deforestation commodities.

Participants from schemes offer even stronger perspectives to offer on companies designing their own standards, generally perceiving this move as a threat to their organisations. One scheme representative put it bluntly: *"You cannot come out unilaterally with a standard. That is a danger for us..." [8]*. Interestingly, this statement was made with respect to a commodity for which only one major scheme is established. Expressing a similar view, the Chairman of the RSPO took aim at Nestlé for designing and implementing its Responsible Sourcing Guidelines, stating that 'stewardship involves taking the lead, but not in running away with the torch' (in Marx, 2013:32). Exactly *why* companies designing their own standards can be perceived as a 'danger' hinges on understanding the delicate balance that schemes, especially Roundtables, are trying to attain (and maintain). As the previous chapter noted in recognising Roundtables' multiple objectives, this balance is sought between, on the one hand, having a sufficiently robust standard to satisfy NGOs and companies pushing to disconnect a commodity from tropical deforestation, while on the other hand ensuring that standard is both attractive and achievable to entice large numbers of producers to encourage their membership. (Interestingly, the Marine Stewardship Council provides an exception here among schemes, since in the words of one participant it is *"a standard that's accommodated the idea it will [only] capture the top [10-15%] of the industry" [7]*. This frees the MSC up to cater the robustness of its standard to this fraction of the industry, rather than aspiring to more widespread representation.)

In addition to their views on the 'dangers' of companies designing independent standards, scheme participants raise several other reasons why they feel that companies should define their sourcing policies in relation to existing schemes. These reasons include the *"differences in credibility"* that apply *"in the market" [9]*, with some company-specific standards regarded as *"green-wash"* in comparison to multi-stakeholder, *"consensus-produced"* schemes *[8]*. Nonetheless, there is a subtext within these arguments that independent company standards remain a 'threat' to schemes. One way this threat could manifest is as follows. When companies, especially large, branded multinationals, overlook existing schemes in designing their sourcing policies, they send an implicit signal that the scheme has not been judged as credible. For schemes intending to achieve substantial coverage of an industry, such a signal is threatening both because it undermines the momentum of that scheme, since the company has not included itself in the scheme's ambit, and because other companies and suppliers can pick up this signal too, leading to the possibility that they might also disregard the scheme. Clearly, each actor that

opts not to join reduces a given scheme's coverage. As one company participant in this study confirmed, Nestlé's RSGs for palm oil – which accept RSPO certification for only 4 of its 6 criteria – were *"initially misunderstood, being seen as undermining the RSPO, both by the RSPO and it's close supporters" [15].*

These perspectives reveal the seriousness with which schemes view independent company standards. In addition to the view that such standards undermine schemes, however, a more practical concern also exists. As one scheme participant noted, *"It is a challenge for us when companies develop their own standards, because it is very time-intensive"* to be consulted and to offer advice *[12]*. This comment demonstrates that, even where they are not formally recognised within company sourcing policies, schemes may nonetheless have important, practical contributions to make to companies' efforts to better sourcing. To the extent that this consultation draws the efforts of schemes away from other purposeful activities, this is a further way that independent company standards are alleged to detract from schemes.

An analysis of these perspectives reveals that the ways in which schemes and companies make their contributions to slowing deforestation can exist in unresolvable tension. For a scheme such as the RSPO, which relies on widespread membership to foster changes in palm oil production practices, companies – especially major ones – that do not opt into its scheme are 'a danger'. Yet for companies, such as Nestlé, likely to suffer NGO scrutiny on the missing criteria within the RSPO – greenhouse gas emissions, peatland conversion and conversation of high biodiversity-value areas – their strongest direct contribution can be made by enacting independent standards that rectify these missing criteria. In the process, however, they can be accused of 'undermining' the RSPO.

These dynamics can change markedly through time, too. As one participant noted (in March 2013) in relation to the dynamics within the palm oil industry, *"It's hard to remember but a year ago we were still living in 'RSPO-world', and suddenly we're living in a world of much more ambitious standards... so I really do feel a sea change in what the benchmark is" [19].* While earlier on within the RSPO's lifespan, NGOs were encouraging companies to become members of that scheme, now they are pressuring for commitments that go beyond the RSPO standard. (In comparison, the dynamics within the two major forestry schemes remains simpler; the FSC continues to be perceived as the most robust of the two standards, with the result that NGOs, such as the WWF, continue to push companies towards that scheme as an end-point.) To the extent that going beyond the RSPO standard would force companies to engage directly with their suppliers, Chapter 7 of this study will argue that that would be a productive, if not necessary, step towards successfully disconnecting a company's palm oil supplies from

deforestation. Yet clearly, this trend contains a threat to the RSPO's contribution to that same objective, since it could struggle to gain further increases in coverage.

To conclude, then, the intended contributions of companies, such as Nestlé, genuinely committed to changing its sourcing practices, and schemes, such as the RSPO, aiming for substantial industry coverage, contain a fundamental tension. This tension is only heightened in light of the fact that companies themselves cite practical concerns over the alternative pathway available to them, specifically including the effort required to engage with schemes across the range of commodities they source. Indeed, membership of any single scheme, such as the RSPO, usually necessitates specific reporting requirements and attendance at annual meetings and working groups, the burdens of which the WWF has acknowledged can result in 'stakeholder fatigue' (2010:20). In addition, De Man and Ionescu-Somers (2013) notes the risks to companies' reputation in relying on any schemes that are not regarded as credible, which at the time of writing pertains most significantly to the RSPO, and can serve as a further spur for companies to pursue their own standards.

According to participants, in addition to schemes, independent company standards also adversely affect another actor: NGOs. As the example of Nestlé demonstrates, company standards can be more robust than compliant membership of a scheme, which begs the question of why NGOs would express frustration at the trend towards companies pursuing this option. The answer is as follows: participants allege that for every Nestlé, there is likely to be more than one company using independent standards to *wriggle out of* any onerous requirements that form part of scheme membership. And the role of assessing the individual merits of this proliferation of company policies falls, ultimately, to NGOs. As Marcus Colchester notes as part of his pithy characterisation of private sector-civil society dynamics (in Moog et al., 2012), "Almost without realising it, conservationists have replaced the organs of democracy... we now have NGOs in watchdog roles replac[ing] the executive" (p18; quoted in full below). An NGO participant in this study confirmed,

> *"We need to ask whether companies are picking and choosing their own policies according to what might be easiest to meet, i.e. designing their own policies can create loopholes" [5].*

To answer this question requires a certain amount of effort on the part of NGOs. To the extent that this effort could be more fruitfully expended elsewhere, perhaps by pressuring lagging companies to enact responses, or working with governments to support broad-based reporting requirements for such companies, the need to monitor and assess individual company policies can be conceived as a distraction and a frustration for NGOs. The fact that some company policies are stronger ('lifting the bar') than schemes', while others are weaker ('greenwash'),

means that both the detail of the policy, and the robustness of existing schemes, matter greatly. Yet it is this ambiguity that in turn necessitates the burden of monitoring and assessing policies for a handful of NGOs. As the next 'polarising theme' to emerge from discussions with participants will show, however, NGOs also play an active role in exacerbating the very dynamics that distract them from the aforementioned tasks.

Within this first polarising theme, the overall trend is clear. More and more companies are creating independently-designed standards (Steering Committee, 2012), which as the perspectives of participants here show, has consequences in shaping the behaviour of other actors (NGOs) and affecting the momentum of other responses (schemes) in their contributions to slowing deforestation.

Polarising theme #2: 'exclusivity' versus 'inclusivity'

A second polarising theme brought out by participants, within the external pathway of relying on existing schemes, concerns the 'exclusivity' of sourcing policies. One scheme representative stated that for schemes, *"the most important consideration" [12]* in the design of sourcing policies was whether a company recognised multiple schemes (for example, '100% certified timber by FSC, PEFC or equivalent') or just a single scheme ('100% FSC-certified timber'). This perspective downplays the more nuanced difference between Equivalent and Hierarchical recognition in light of their shared inclusivity (a view further supported by the potential similarity of these strategies in practice).

As with the decision between 'internalising' and 'externalising', whether company sourcing policies are 'exclusive' or 'inclusive' generates several consequences for schemes. One consequence occurs at the level of the forest, as the scheme participant quoted immediately above explained, saying that a *"monopolistic [exclusive] situation takes away the desire or need for continual improvement, and leads to a relabelling of forests rather than an expansion of certification..." [12]*. This 'relabelling of forests' is a reference to a number of European forests that, although already certified to the PEFC's standard, were re-certified to the FSC's standard in order to be eligible for certain company sourcing policies that recognise only FSC forests. Some actors now contend that 'dual FSC and PEFC endorsements are a benefit' (K.W. Doggett, undated). To the extent that these two schemes' standards exhibited sufficient differences that this relabelling could guarantee a higher degree of environmental protection, for example, it may have been justified; and indeed, for at least the FSC's first decade it outperformed the PEFC in its environmental criteria. Yet the PEFC standard has recently been assessed as broadly

comparable to the FSC's, according to the UK Government's assessment (DEFRA, 2013). In this light, the relabelling of these forests appears to be a distortion of actor effort and a case of *"misguided resources" [12]* generated by exclusive sourcing policies that would not accept PEFC-certified forest products.

Other participants maintain, however, that exclusive recognition can have desirable consequences, for example in avoiding a situation where *"broad recognition inspire[s] a race to the bottom" [4]* and also in encouraging *"other schemes to improve [by] having a strong system" [1]*. As referred to earlier, one strongly-evidenced case of *"ratcheting up other standards" [1]* occurred between the two major forestry sustainability schemes, with the PEFC evolving rapidly in competition with the more reputable FSC (Overdevest, 2010).

While all of these participants agree that exclusivity intensifies competition between schemes, then, participants differ in their views of how constructive that competition is for forestry standards. On the one hand are scheme participants who feel that competition is inherently destructive, such as the participant quoted above, as well as another from the RSPO, who noted bluntly that, *"As far as competition is concerned, of course [that causes problems] because they [other schemes] become our competitors" [8]*. One the other are participants who see the potential for inclusive recognition to generate a 'race to the bottom' and exclusive recognition to generate a strengthening of other schemes' standards.

One NGO participant expressed a more nuanced view than these positions, however, elaborating as follows:

> *"I accept that competition can become counter-productive, and that there is potential to undermine broader efforts if schemes spend too much time battling. But corporations can use the differences between schemes as loopholes for their own policies, i.e. they know when one isn't as strong and they use that as a loophole" [5].*

This perspective shows a clear parallel with the same participant's concern – expressed in the previous section – over the burden of monitoring company policies falling to NGOs. From NGOs perspectives, then, companies using inclusive recognition strategies could 'use the differences between schemes as loopholes', a possibility that it again falls to NGOs to detect. Yet this appears to be a no-win situation for NGOs, since they can either renege on the monitoring and pressuring role that has fallen to them, leaving companies to 'use loopholes', or they can expend effort to ensure stronger company policies, in turn sacrificing effort that could have been put to use elsewhere.

Clearly then, there are consequences for other actors – schemes and NGOs – which follow from company decisions on the exclusivity or inclusivity of their sourcing policies. Yet by and large, the decisions that fuel these competitive dynamics are decided without these consequences in mind. This is because companies are themselves attempting to resolve a tension between, on the one hand, having credible enough policies to deflect NGO attention or pressure, while on the other, satisfying the pragmatic needs of ensuring adequate supplies at minimum cost and with maximum availability. (Recall, again, that the possibility of allowing their activity to be constrained by shortages of supplies has been implicitly rejected by companies.) In trying to balance the two sides of this tension, companies have crafted careful positions on exclusivity, in general tending to indicate a preference for those schemes that are perceived as robust (satisfying NGOs), while nevertheless keeping a door open for alternative options (satisfying pragmatic concerns). Consider, for example, one statement by a participant from major retailer, who noted:

> *"We use only recognised schemes, until something else comes along that we can recognise" [3].*

This sentiment was echoed in the remarks of a Walmart representative, Julian Walker-Palin, at the 2012 RSPO annual meeting, prior to which that company had formally recognised the Rainforest Alliance's palm oil standard:

> "the RSPO is the route that we currently see to deliver sustainable palm oil, but we would also accept any equivalents to RSPO as they arose… [for example] this year we recognised Rainforest Alliance palm oil… This doesn't detract from RSPO at all, in fact, I think it enhances it" (Walker-Palin, 2012).

While these quotes reveal a pragmatism in not ruling out any schemes, they are careful not to appear too lenient in accepting just *any* scheme. Much hinges on the words 'equivalent' and 'recognised', prompting the unanswered questions of 'who judges a scheme as 'equivalent'?' and 'who first recognises a scheme?'. (In what is perhaps a unique exception, Nestlé clearly states its position on the former, noting that a scheme must be approved by an 'executive board member' of the company; Nestlé, 2011:3) Yet even without explicit answers to these questions, it is possible to interpret in company behaviour the broad contours of those answers. And in short, in addition to the roles this chapter has already identified, NGO approval is likely to be crucial to both (a later section will discuss NGOs more fully).

Before turning to the multiple roles of NGOs within these dynamics, however, one further topic warrants exploration. Although the two polarising themes already identified have been shown

to affect the efforts of other actors, including NGOs, it is worth being more definitive about the consequences for schemes of the competition between them. The following section turns to this task.

Consequences of competition between schemes

The quotes from scheme participants above reveal the sensitivity generated by the two themes of 'internalising versus externalising' and 'exclusivity versus inclusivity'. The history of forestry certification suggests an additional reason why schemes would be concerned about a lack of support: it could portend the emergence of rival schemes.

Some schemes, such as the national forestry standards that amalgamated under the umbrella of the PEFC, emerged largely in reaction to the FSC (Auld et al., 2008). There is a strong suggestion that this trend might now be replicated through the emergence of multiple national timber legality schemes (inspired at least partly by the requirements of the FLEGT VPAs) as well as national palm oil 'schemes' in Indonesia (the ISPO) and Malaysia (the MSPO). These latter examples are sometimes schemes in name only; more accurately they are an attempt to collect and forge a coherent set of laws relevant to palm oil production. Yet nonetheless their establishment in opposition to existing schemes – namely, the RSPO – can be seen in the statement of a Malaysian official that 'the RSPO [has become] more of a burden to the industry [than a benefit]' (Mongabay, 2013c). Perhaps not coincidentally, this statement was made around the same time that the Palm Oil Innovation Group (POIG) was created, signalling an intent to make the RSPO standard more robust. These developments clearly reveal the dynamism inherent in the set of sustainability schemes for any given commodity.

Indeed, nor is the standard of each scheme itself fixed, but rather they are capable of evolving through time, as Smith and Fischlein (2010) propose in their exploration of 'the competitive nature of multiple private networks' (p512). Importantly for present purposes is the fact that company sourcing policies can be directly responsible for shaping this dynamism, including by applying upward pressure on the standard of a weaker scheme. As an example of this outcome, Gereffi et al. (2001) conveys that when two major timber retailers – Home Depot and Lowe's – 'declared their preference for FSC-certified products... the [non-FSC] industry had little choice but to push standards toward FSC levels' (p61). (And as the previous chapter noted, government procurement policies, and specifically the timber policy of the UK Government, have exerted a similar influence.) However, this generally-accepted example (see Overdevest, 2010, Smith and Fischlein, 2010) has yet to be met with parallel examples for the other

deforestation commodities. This is at least partly due to the lack of strong rival schemes for the RSPO (recall that the Palm Oil Innovation Group explicitly demurred from establishing an alternative standard), RTRS and others. It remains unknown, then, and – in the absence of competitor schemes – perhaps largely irrelevant, how transferable this influence of sourcing policies might be.

There are several reasons to believe, however, that the capacity for schemes to evolve is not infinite, and may in fact be highly limited (Smith and Fischlein, 2010), regardless of the extent of the external pressure placed on them. Scott Poynton, the Executive Director of the The Forest Trust , a not-for-profit organisation that assisted Nestlé in developing its RSGs, contends that 'certifications would like to be more dynamic, but they find it really hard. These are systems set up ten or twenty years ago that are struggling to change due to their governance systems' (in SustainAbility, 2011:22). Equally, the structure of Roundtables creates difficulties for evolving, as one participant made clear with respect to the RSPO: "*There are constraints with a consensus based system with what you can achieve and the pace that you can go. You are not going to move the fastest. You are moving at the median pace, [held back by] the lower 50 per cent*" *[22]*.

The assumption implicit in the argument above is that schemes necessarily evolve to become *more*, rather than less, robust. Yet some research suggests that the 'converging' (p512) of the FSC and PEFC standards noted by Smith and Fischlein may have resulted through *both* schemes evolving; in the FSC's case, by *weakening* its standard. According to Moog et al. (2012), 'one of the most serious consequences of the intense competition with other labelling schemes... [is] the way in which the race for market dominance has prevented the FSC from holding a hard line on its own standards' (p11). One FSC participant in this study did not agree with this assessment, nor the characterisation of the competition between FSC and PEFC as a 'race for market dominance'. Specifically, this participant asserted that, for the FSC,

> *"This isn't a competition over hectares" [1].*

Yet even if this statement does accurately portray the FSC's view of competition, that scheme has nonetheless earned notable detractors, including the Rainforest Foundation UK and the European forest group, FERN, over its decisions to begin certifying both plantations and supply chains, as well as establishing its Mixed Sources label (Mongabay, 2013a). Crucially, then, strong perceptions exist that schemes have evolved to become both more *and* less robust through competition with each other. This competition has in some instances been clearly inspired by the recognition strategies chosen within company sourcing policies.

Mindful of the possibility that competition might bring negative effects for schemes, then, several adverse trends appear to be emerging. Firstly, there is the emergence of rival schemes, some of which establish legality as a baseline, and a retreat to national standards, similarly focused on legality (Djama et al., forthcoming). The POIG provides a unique example of a new institution that is not intended to compete with the existing scheme; the remainder can best be understood as doing precisely that. The competition that will likely result from these new schemes and standards is highly likely to encourage displacement and segregation – as well as a 'lowering of the bar' to legality – within production of timber and palm oil, notwithstanding the EU's efforts – through FLEGT – to holistically approach timber production in VPA countries.

A second emerging trend is the increased willingness of companies to forgo existing schemes and design independent standards for their fraction of production. Again, this tendency can be perceived as coming at the expense of schemes, as Nestlé's Sustainability CEO noted in response to the RSPO's allegation that company was 'running away with the torch': "it's unfortunate if people think that… we're undermining the RSPO. Not at all" (in Marx, 2013:30). Yet this message can be a hard sell, particularly – as one participant noted – *"…at a time when RSPO was seen by all key opinion leaders as the one and only place to discuss and make progress on palm oil" [15].* That this perception has now evolved, to reflect a 'post-RSPO' vision of change within the palm oil industry, only underscores the challenges facing even major schemes in the face of these two trends.

What do these trends mean? For schemes, they are an affront to their vision of transforming their industries by reaching sufficient coverage (either in and of itself, or through reaching tipping points in that coverage; see theories of change in Chapter 7). For companies, the fragmentation of schemes may only embolden their willingness to devise independent approaches to their sourcing policies, further fuelling the problem for schemes. And finally, for NGOs, these trends must at the very least prompt some rethinking about their traditional formula of pushing companies towards existing schemes and designing sourcing policies on that basis. The rationale for supporting consensus-driven schemes appears to be failing, which could be perceived as an opportunity to support stronger sourcing policies, even though this currently requires much greater involvement and effort by NGOs. (A later section will consider whether collaboration and harmonisation could ease this burden.) Given that NGOs are key instigators and directors of company decisions, it is worth now exploring their behaviour in more detail.

NGOs as watchdogs and more

The importance of NGOs for the dynamics of both company and scheme behaviour has long been recognised. For example, Gulbrandsen (2004) notes that for many companies forest certification is a 'response to the activism and pressures exerted by environmental organisations' and 'a precautionary strategy to avoid conflicts with NGOs' (p93). As Bloomfield (2014) writes, 'Directly targeting firms has proven effective at spurring corporations to reduce their exposure to such attacks by changing their practices, collaborating with environmentalists, and committing to various non-state regulatory initiatives…' (p264). Recall too the Greenpeace representative quoted at the beginning of this chapter saying that attention from NGOs on individual companies was 'like discovering gunpowder' in its ability to flush out company responses (in Gereffi et al., 2001:64).

De Man and Ionescu-Somers (2013) note that the use of sustainability schemes is most useful when 'dealing with commodities that are linked to intensive public debate on sustainability issues' (p37). But as this chapter has already noted, not all schemes' reputations are alike. And while ISEAL states that, 'the reputation of a standard is the main criterion [for companies] when deciding whether to use a particular standard' (ISEAL, 2010:20), it is by now clear that NGOs play a critical role in mediating these reputations, and thereby affecting company behaviour.

Company participants in this study vary in the candour with which they discuss the role of NGOs in their decisions, yet overall the importance of that role is clear. As a participant from a major timber retailer noted, in relation to his company's pro-FSC timber policies: *"there is a general perception that FSC is a stronger scheme" [14]*, while the Sustainability Director of the large, Australian timber retailer, Bunnings, added, *"we like to see NGO testing [of schemes] so that we can take a position of comfort"* (Gomm, 2013). Unlike the UK and Dutch governments, then, both of which have undertaken detailed assessments of the FSC and PEFC, companies tend to rely just as much on perceptions of a scheme's merit – in other words, its reputation. And as the latter quote reveals, these perceptions can hinge largely on NGOs' judgements about individual schemes.

Not all participants in this study were comfortable with the paramount importance given to scheme reputations, nor the role of NGOs in shaping those reputations. One scheme representative, for example, lamented that companies might choose one scheme over another mainly *"to make sure NGOs are happy" [12]*. Company representatives express similar frustrations that their policies should be 'based on perception or politics, not science' (SustainAbility, 2011:20). Yet within a highly politicised context in which companies can be singled out and campaigned against by NGOs, company behaviour – while defensive – can

nonetheless be seen as a desirable 'precautionary strategy' (Gulbrandsen, 2004:93). An anonymous company representative within a WWF report confirms that: 'if you include critical actors [NGOs] then the process [of designing sourcing policies] is less prone to attack' (Anon, in WWF, 2010:27). Clearly then, NGOs have assumed 'watchdog' roles over the responses to tropical deforestation emanating from the private sector, making their scrutiny of schemes an essential – and inevitable – part of the dynamics of private sector-civil society responses. And not all are content with NGOs' roles within these dynamics, as the following section will explore.

By now it is established that NGOs exercise considerable influence within the dynamics of private sector-civil society responses, primarily by assessing the robustness and legitimacy of schemes (including 'recognising' and judging 'equivalence'), and by influencing company policies on that basis. But there are other ways in which NGOs have shaped the dynamics of private sector and civil society responses to tropical deforestation. Indeed, a primary example is the WWF's Market Transformation Initiative, which played the foundational role of identifying the 15 most significant internationally-traded commodities for generating environmental problems (WWF, 2012). The Market Transformation Initiative has since structured the WWF's attempts to collaborate with the major companies involved within each of the associated industry for these commodities, which include the four – timber, palm oil, soya and beef – implicated in tropical deforestation. Yet the NGO-industry Roundtables that have been established do not just identify relevant commodities; they also play a critical role in *framing* the nature of the underlying problem and – according to their critics – 'promoting a regulatory culture based on market solutions and individual responsibility, while ignoring deeper systemic issues' (Bloomfield, 2014:267). As Chapter 3 concluded, the current framing precludes the magnitude of consumption and any need to fundamentally revisit the system of international trade that has enabled transnational problems to emerge. As Chapter 4 then noted, the responsibility of the state – of governments – is largely dismissed within these private sector-civil society collaborations, a framing that consumer governments have both accepted and promulgated in subsequent statements about the primary role of the private sector.

Two roles for NGOs have so far been identified. At the macro, framing level, NGOs (and especially the WWF) have identified problematic commodities in international trade and formed collaborative institutional responses. NGOs then play a subsequent, critical role in assessing schemes and influencing company policies on that basis. (Of course, NGOs also seek to influence the behaviour and standards of those Roundtables, within limitations, where they are often-prominent members.) Yet there are also less explicit roles for NGOs within the dynamics of private sector-civil society responses, and in particular in influencing or even designing company sourcing policies.

For instance, a Resources for the Future report (2005) noted that the major timber retailer 'Home Depot has pledged not to purchase uncertified wood products sourced from the 10 most vulnerable forest eco-regions in the world, as identified by WWF' (p11). In this example, the WWF was responsible for determining geographical areas of high environmental concern, convincing Home Depot to avoid purchases from these areas. On what basis these areas were determined is not revealed. Although recent research that identified the 'most ecologically irreplaceable' areas globally (Le Saout et al., 2013) seems to support – at a much higher level of resolution – the 9 forest regions where WWF is most active (WWF, 2015), the WWF's influence on particular company sourcing policies nonetheless prompts questions on the reliability – not to mention transparency – of that influence. Other examples where companies have announced intentions to stop sourcing from given countries and regions are outlined by Global Witness (2011b:18). (Chapter 6 will add a further note of significance to these examples, showing that in contrast to companies, governments are unable by international law to distinguish – or differentiate – between source regions or countries for internationally-traded commodities.)

A final example of NGO influence on company sourcing policies is provided by the 5 minimum requirements of IKEA's Code of Conduct for timber sourcing, which also calls into question the independence – as proposed in this chapter's typology – of supposedly independent policies. The requirements in question are in fact carefully matched with the FSC's Controlled Wood certification, and the WWF and IKEA are equally proud of their partnership (see Woolford, 2015), which formally began in 2002. While such policies might appear to be independent from existing schemes, the involvement of the WWF has clearly (and publicly) led to a policy with clear potential for recognising one particular scheme. As one scheme participant confirmed on the basis of this case, *"Companies don't just dream up the policies on their own, they usually look for guidance" [12].*

Clearly, then, NGOs such as the WWF have played critical roles: firstly, in structuring the landscape of responses to deforestation by establishing Roundtables for each problematic commodity, in turn framing the private sector as primarily responsible for responding to those problems, and secondly, by pressuring companies to engage with Roundtables and schemes, and advocating and pressuring for company sourcing policies to give priority to one scheme over another. Yet the dynamics of voluntary governance are shifting, with companies – especially major multinationals – increasingly opting for independent standards, a prerogative accorded by their position at critical nodes within international supply chains. NGOs necessarily take a reactive approach to this shift, since it imposes on them the burden of monitoring and assessing individual policies. (Schemes, too, take a reactive approach, primarily suffering through a loss of momentum, coverage and adverse signals about their reliability.) These

changes take place within an overall context where the limitations of certification have increasingly come to be recognised. Placing this discussion of actor behaviour within the context of that behaviour is the task to which the following section will now turn.

Voluntary governance's 'failure' as context

Not everyone is content with the dynamics that have emerged around voluntary governance, despite some contending their 'increase[d]... ability to tackle a range of contemporary (environmental) challenges' (Newell et al., 2012:366). Yet as Marcus Colchester lamented during a speech to the IUCN World Conservation Congress in 2004:

> "I think there is a major problem with the current model of self-regulation, which gives no role the State, to the rule of law, or even to leverage for reformed governance by governments itself. Instead, almost without realising it, conservationists have replaced the organs of democracy: we now have consumers instead of enfranchised citizens; we have NGOs in watchdog roles to replace the executive; we only have recourse to the media - the 4th Estate – as a court of appeal" (Colchester, in Moog et al., 2012:18).

Colchester's critique goes beyond the involvement of NGOs in influencing company sourcing policies and draws on long-standing discontent with certification as an instrument of change. According to Cashore et al. (2004), this critique has existed within the forestry sector from the outset of the FSC, where 'NGO activists... [are accused of] dedicating a disproportionate amount of their energy to the certification issue, at the expense of other important conservation goals' (in Moog et al., 2012:18).

Yet already this chapter has demonstrated that NGOs are – to an extent – required to play some of these roles, including scrutinising both company sourcing policies and schemes, and pushing companies towards more robust schemes. These roles are necessitated by the lack of regulation, or even broad-based guidance, that could otherwise be drawn on to structure company sourcing decisions. And the lack of regulation, in turn, is determined by the near consensus within Western countries that responding to problems such as tropical deforestation is primarily a private sector responsibility. (Other transnational problems, particularly trade in hazardous materials, are instead governed by regulation.)

Yet Colchester's critique lingers. Is it possible that actors, including NGOs and schemes, are overly focused on certification? And in answering, perhaps it is first worth addressing the question of the opportunity cost of actors expending their effort on certification. That is, which

issues do *not* receive sufficient attention as a result of schemes and NGOs lobbying companies over their sourcing policies?

One scheme representative in this study proposes that, for schemes, one consequence of these efforts is that *"schemes do not then need to adapt to the needs of forest owners who are currently uncertified"* or *"focus on building institutional capacity for those owners" [12]*. In other words, the focus of schemes on competing for attention at the 'downstream' end of supply chains comes at the expense of paying attention to the actual *production* of relevant commodities, including tailoring their schemes to producers' needs. To the extent that this criticism holds true, it would suggest that schemes have perceived – or assumed – that focusing on the *drivers* that interact with them will automatically activate the desired improvements in production practices at the opposite end of supply chains (i.e. by 'looking downstream', schemes will 'affect upstream'). For the FSC in particular, with its shortage of supply, this seems optimistic, though the same applies to all schemes that have so far only affected marginal fractions of production.

Companies also perceive misguided resources in the current scenario, expressing frustration that schemes can 'require us to change our processes for no reason' (Anon, in SustainAbility, 2011:20), and that the inertia of schemes – in failing 'to adapt to new knowledge or processes' – 'hampers [company] innovation' (ibid.). Companies within Roundtables also perceive 'a 'mis-weighting' between procedural requirements and performance requirements' (Anon, in WWF, 2010:26). No doubt some of this expressed dissatisfaction – from all actors – reflects the limited success, to date, of sustainability schemes in resolving the considerable environmental problems that precipitated their creation. As the concluding section to this chapter will explore, two decades of certification has delivered only modest percentages of trade in each given commodity. As one scheme participant concluded bluntly, *"so far, certification has failed, because we haven't found the solutions" [12]*.

As participants have argued, certification's shortcomings are likely to be exacerbated – if not caused – by the demands of competition on schemes. For example, a representative of the major homeware company Office Depot complained that 'each [scheme] is very tied to its own approach and methodology. If they organised themselves as a group and improved their business model, interest would escalate dramatically. They are all protecting their tiny slice of the pie, but the pie could be much bigger' (in WWF, 2010). Of course, these effects from competition are likely to be differentiated across commodities and mediated by the specifics of each sustainability scheme. For the timber, wood, pulp and paper industries, where a strong rivalry exists between two major schemes, the side-effects of competition are most acute. This situation is ironic given recent assessments of the FSC and PEFC by government agencies in the

UK and the Netherlands, which in validating both schemes provide further support for Smith and Fischlein's (2010) conclusion of convergence between the two schemes.

For NGOs, in turn, efforts focused on voluntary governance – i.e. certification – have been severely criticised. As Bloomfield (2014) writes, certification fails,

> 'to address problems of over-consumption and economic inequality, both of which can be seen as fundamental sources of environmental destruction. In fact, the certified product that results could actually be viewed as a step backward by making the industry and its products more palatable to socially and environmentally conscientious consumers' (p271).

These criticisms reinforce the points made earlier at a conceptual level, whereby the framing of the problem of tropical deforestation has entrenched problematic versions of commodities as the appropriate subject of governance, blinding responses to alternatives and condemning them to underachieve in direct proportion to the importance of those alternatives to the underlying problem. As Moog et al. (2012) continue,

> 'Celebrating [sustainability schemes] as a solution to social and environmental problems, critics claim, could have precisely the opposite effect: limiting opportunities for meaningful public debate and regulation' (p3).

These alternative foci of NGO attention – over-consumption and economic inequality, meaningful public debate and regulation – are overlooked while NGOs focus on certification. This is a serious criticism. Yet even above and beyond these blindspots, there are other shortcoming that this chapter has revealed of the current 'model' of change, which hinges largely on 'market-based shame campaigns' conducted by NGOs (Bloomfield, 2014:277). This model of change involves NGOs chasing, pressuring and 'shaming' companies to force them to respond to the sustainability of their supplies, primarily through commitments to certified sourcing. Concurrently, both NGOs and progressive companies attempt to bolster the robustness of these schemes from within (and with the POIG, beyond). Yet as this chapter has demonstrated, even when these objectives are realised, perverse outcomes – through wasted effort - are not just possible but inevitable.

Further, the possibility of critiquing company and industry plans for continual expansion, or of understanding how improvements in one location or for one commodity might simply be displaced elsewhere, can be neither grasped nor addressed from within the current model of addressing the problem. In fact, such arguments – as introduced in Chapter 3 – necessitate a critique *of* the current model of change. These arguments shine a spotlight on *both ends* of

global supply chains, which is perhaps part of the reason many actors are comfortable focusing their attention on the current model. Through this view, traded deforestation becomes not simply a problem of *sourcing*, but also of *consuming*. The actors most able to act on these concerns are – not coincidentally – those that have been sidelined by the current model of governance: governments. As the responses introduced in Chapter 1 demonstrate, governments have recently become more active – including through regulatory means – in responding to tropical deforestation (primarily via illegal logging), which is timely given the local, regional and global public interests involved in tropical forest conservation (eg. New York Climate Summit, 2014). Yet the bulk of the legwork is still enacted by NGOs, who remain the guarantors against weak responses.

Arguably too, the continued and implicit acceptance of the current model of change is now even less justifiable than it has been previously, given the growing consensus that certification is a highly limited instrument for direct transformative change. (Chapter 7 will consider whether its indirect effects might yet prove substantial.) These limitations include the following: self-selection biases in its patterns of adoption (Auld et al., 2008), its inability to produce the 'enabling environments' necessary for effective collective action and accountability (in McCarthy, 2012:1878), its limited applicability to the 'bottom of the market' (Steering Committee, 2012:xiv), and its likelihood of flourishing 'in only a limited set of circumstances' (Mayer and Gereffi, 2010:i). Perhaps the most effective antidote for these understandings would be if a scheme gained sufficient coverage to affect a significant share of production for any commodity. But no scheme yet has, and so at best certification is increasingly understood – at best – as a *partial* solution to the environmental (and social) problems of international trade. Indeed, companies are highly aware of these limitations, as a representative of one major retailer expressed as follows, *"We are determined to tackle some of the difficult issues, and to do so we need the "context" of standards and certification schemes, but we need to work outside them to make real progress" [15].*

Taken together, these limitations have led even the chief proponent of the WWF's Market Transformation Initiative to conclude that, 'as standalone instruments, voluntary certification programs won't get us where we need to be' (Clay, 2012). Similarly, the Rainforest Action Network concludes bluntly that 'timber certification is not enough to save rainforests' (Butler, 2010). Indeed, some authors recall that certification was 'Plan B' right from its beginnings (Moog et al., 2012:10), brought about by the inability of governments to agree on an adequate public sector response to tropical deforestation.

Looking to the future, then, some experts contend that '[schemes] will fade into a quieter, background role, acting as trust marks for those who seek it and leaving brands – and consumers themselves – to take the lead' (SustainAbility, 2011:27). Yet as this chapter has already shown, the shift towards more individual company – 'brand' – approaches to sourcing policies has consequences for the direction of NGO effort, as well as possible deleterious consequences in the (continued) fragmentation of policies. Fighting against this tendency towards fragmentation are multiple 'collaboration' and 'harmonisation' agendas, which are considered below, along with two other possible opportunities to remedy the dynamics this chapter has identified.

Opportunities to remedy counter-productive dynamics

Collaboration and harmonisation

One strategy to reduce the fragmentary and counter-productive effects of competition between sustainability schemes could be to embrace its opposite: 'collaboration'. How much collaboration, then, is already taking place between schemes? For some of the minor commodities associated with traded deforestation (specifically cacao, coffee and tea), some movement in this direction can be observed. FairTrade, Rainforest Alliance and Utz Certified, for example, have recently announced that they were 'working together to reduce the level of complexity and cost for farmers and to seek further cooperation in the field' (in SustainAbility, 2011:31). For participants in this study from the major forestry schemes, however, their perceptions were less encouraging in their assessments of the state of collaboration. One NGO participant admitted that he *"knows of one or two instances of collaboration [between FSC and PEFC]"*, but that these occurred only *"where it suited both parties" [5]*. And while a scheme participant conceded that *"things [between FSC and PEFC] are better than they have been previously" [12]*, any optimism he held for future collaborations remained heavily guarded.

Yet collaboration can be discerned – implicitly – in the umbrella structure of the PEFC, with multiple national forestry standards joining it rather than seeking to create novel international schemes. And perhaps too some amelioration of the adverse effects of competition might be possible even in the absence of concerted efforts to collaborate. As Fischer et al. (2005) note, 'in the long run, market forces are likely to foster harmonisation among the multiple systems' (p19). This harmonisation could manifest from various trends, including 'mutual recognition (a forest certified through one system could carry the product label of another), a common chain-of-custody standard, or the creation of a common certification framework that would apply to all systems' (ibid.).

From schemes for the deforestation commodities, there are some encouraging signs of harmonisation agendas, albeit modest in scope. One example is the efforts of the Forest Peoples Programme, an NGO, to bring together forest-related sustainability schemes to discuss – and ideally streamline – recognition of indigenous peoples within their standards. Forest consultancies such as Proforest, which chairs the Secretariat for the High Conservation Value Resource Network, have done similarly in an attempt to create consistent recognition and protection of HCV areas across schemes. More substantially, the November 2014 workshop (The Forests Dialogue, 2014) that sought to agree definitions for 'deforestation-free' sourcing, might – if adopted en masse – supersede schemes' own definitions, forcing them to either change their standards or face the (further) redundancy of their policies.

Another form of harmonisation, which Gulbrandsen (2004:85) mentions as 'mutual recognition', could perhaps better be termed 'consolidation'. Indeed, forestry's two decades of experience with sustainability schemes suggests the subtle power of this force. As Smith and Fischlein (2010) summarise,

> 'Interestingly, over time and in ways not well understood, such networks [of schemes] appear to consolidate—often converging with regard to system content, and therefore, to a certain level of environmental or social quality. This market vetting rarely culminates in a single accepted standard, though through this process, accepted norms emerge and rules of the game are established and codified' (p512).

Just as the effects of competition in the business sector tend to produce consolidation, then, so too may it result for schemes. Indeed, there are practical constraints that would appear to lend themselves to this outcome, as one participant notes, stating that, *"there is no way that all these standards can maintain themselves with the associated costs over the long term"*, so *"I think eventually there will be some kind of consolidation or shake out" [22]*.

This situation broadly reflects the experience of the schemes for forestry. Once a scheme reaches an established or dominant position, other actors may be less inclined to develop their own [competing] processes and procedures. Resources For the Future (RFF) provides evidence that this occurred for the Sustainable Forestry Initiative in America, which decided to 'leave such certification processes to the PEFC' (2005:22). In that sense, the strength of the PEFC and FSC schemes in the forestry sector have long been a force for consolidation. The 'mature' state of competition between the forestry schemes is not, however, matched for palm oil. The decision by Malaysian palm oil producers to leave the RSPO to establish a domestic, national-level scheme (a move that, at the time, Indonesian producers were expected to join) suggests that a balance between schemes has not yet been reached; there are both fragmentary forces as

well as consolidating forces. The case of palm oil is simply one example of a trend towards national-level schemes.

Harmonisation has also been pursued explicitly by some actors. The ISEAL alliance holds harmonisation as an explicit objective, aiming to 'increase the compatibility between the members, something that could be seen as a harmonising effort to enhance the international recognition of these schemes as facilitators ... to trade' (in Auld et al., 2008:203). On the basis of extensive interviews, ISEAL (2010) summarised its members' perspective that 'standards systems should strive to build a coherent landscape', with 'only very few [respondents to the study's survey] seeing 'one catch-all eco-label' as the solution (p20). Instead, and consistent with Smith and Fischlein's conclusion, ISEAL's respondents suggest the value of 'a small number of standards, tailored to the respective sector, geography or sustainability criterion' (ibid.).

Yet the impetus towards competition may not be so easily overcome, even once the value of collaboration and harmonisation have been explicitly recognised, for one very important reason: companies also use sustainability schemes as a means of differentiation from their own competitors (Steering Committee, 2012). While this may guard against any given scheme remaining weak (since if standards 'become too low, we can't differentiate ourselves'; SustainAbility, 2011:20), it also creates another mismatch between, on the one hand, the ambition of schemes to expand their coverage, and on the other, the desire of the companies that recognise them to differentiate themselves. This desire for differentiation on the part of companies is certainly a large part of the motivation for schemes to themselves differentiate themselves from their competitors. The more companies support a given scheme, 'the less the consumer is likely to notice, and the less of a differentiator they become for any one [company]' (SustainAbility, 2011:24). In other words, the use of schemes as a means of demonstrating difference strongly encourages the competitive behaviour of schemes themselves and the choice of company sourcing policies. These motivations suggest a limit to the possibilities of collaboration or harmonisation, while simultaneously underscoring the extent to which competition between schemes is a structural feature of current private sector and civil society dynamics.

Changes in company and NGO behaviour

Improving the current 'model' of industry-wide change will undoubtedly require changes in the behaviour of its central actors. Arguably, companies have already embarked on a shift in their own behaviour by increasingly overlooking schemes as the route to their sourcing dilemma; evident, for example, in the earlier quote from a representative of a major retailer, *"We are*

determined to tackle some of the difficult issues, and to do so we need the "context" of standards and certification schemes, but we need to work outside them to make real progress" [15].

NGOs too need to reassess the directions that they push companies towards. As Wright (2012) notes,

> 'The first, and most obvious, point to make is that NGOs must become more self-aware. This is a prerequisite to combating the problems discussed in the present review…' (p131).

And perhaps NGOs are beginning to reconsider their current approach in light of the lessons about competition's potential to produce 'misguided resources'. A strong example is provided by the POIG's decision – to which multiple NGOs were party – to attempt to influence the RSPO's standards rather than create an alternative scheme, especially given the known weaknesses of that incumbent scheme. But participants also recognise the relevance for these lessons in relation to the two timber schemes, as one NGO representative noted in acknowledging the need for *"a more sophisticated approach" [5].* In his view, there are two sides to this approach:

> *"WWF must be willing to criticise when FSC doesn't meet the standards we expect; on the other side WWF needs to be able to applaud PEFC when it does reach those standards" [5].*

This participant also noted a growing awareness within his NGO of the need to ensure that its actions advance certification's broader goals, concluding that *"I feel that we need to be more nuanced and balanced in our approach" [5].* This realisation is especially welcome given the damning conclusion of another participant that, *"certification has so far failed" [12].*

Schemes, on the other hand, are perhaps the least likely to reconsider their current behaviours, since they have narrowly commercial as well as broader strategic ambitions. Further, all major schemes for timber and palm oil have adopted a vision for change that hinges on the widespread adoption of their scheme, enabling tipping points in coverage to be reached. Chapter 7 considers the merits of this vision further; suffice it to note that until a scheme experiences this transformation in practice, it remains only a hypothetical possibility. Thus schemes are likely to continue lobbying companies to adopt their scheme, and theirs alone, perpetuating the current model of change despite growing company – and perhaps – NGO awareness of its shortcomings within the broader certification context.

While the following chapter will consider the constraints on government regulatory action, already a productive role for government can be discerned in relation to the dynamics of the private sector and civil society. Specifically, governments can spur more proactive behaviour by companies through multiple, related actions oriented towards transparency, for example through introducing mandatory reporting requirements. While some voluntary institutional efforts, such as the Global Reporting Initiative, have done similarly, at least one government has also fostered greater transparency through reporting. Since October 2013, the UK Government has required 'all UK quoted companies', which captures all those listed on the London Stock Exchange, 'to report on their greenhouse gas emissions as part of their annual Directors' Report' (DEFRA, 2014).

Separately, and at a sub-national level, The New York State Comptroller Office has led a 'shareholder activism campaign' on behalf of the New York State Common Retirement Fund, targeting 'a number of major palm oil buyers' and resulting in company commitments to using only sustainably-produced versions of that commodity (Mongabay, 2014e). Within the politicised dynamics that companies operate within and that this chapter has canvassed, this action by a public authority has filled a similar niche – and so far, produced comparable results – to the NGOs whose campaigns force companies to focus on their exposure to the deforestation commodities.

These two examples hint at the emergence of a new, more nuanced balance of responsibility within consumer countries. Although the private sector has consistently been given primary responsibility for responding to the problem of traded deforestation, this chapter has detailed the difficulties that pervade and surround private sector-civil society dynamics, resulting in practical limitations on the responses that emerge. There are also significant conceptual problems with the reification of the private sector as primary respondent: as Vermeulen and Kok (2012) remind, 'governments remain responsible for public goals', and they 'may try to support and accelerate desired activities as one of the members of such networks of actors' (p190). While accepting that 'in some cases, governments, NGOs and corporations compete and may hinder each others' actions' (Lambin et al., 2014:129), then, opportunities clearly remain for more productive engagement by governments with private sector and civil society dynamics, even if they 'are hardly in the position to resume their traditional regulating role in global supply chains' (Vermeulen and Kok, 2012:190). Indeed, such engagement may be essential; as Mayer and Gereffi (2010) conclude, 'unless private governance is supplemented and reinforced by public institutions of governance, it cannot provide adequate governance capacity for the global economy' (p19).

The actions taken by the UK Government and the New York State Comptrollers' Office reflect an acknowledgement, however implicitly, that private governance is by itself 'a second-best and partial solution to the governance challenge posed by globalisation' (Mayer and Gereffi, 2010:20) and demonstrate a willingness by public authorities to re-accept a greater degree of responsibility than has typically been demonstrated by consumer country governments over the last two decades. While the following chapter, Chapter 6, will explore the problem of traded deforestation from a consumer country government perspective, detailing a number of sensitivities and limitations that has affected behaviour, Chapter 7 will return to the topic introduced here; namely how government responses can constructively influence and interact with other, private sector responses to deforestation.

Conclusion

A broad shift is occurring within the dynamics of private sector-civil society responses to deforestation. The shift can be characterised in broad terms as an apparent reorientation of the focus of the largest companies, away from sustainability schemes as an instrument of change, and increasingly towards developing independent company standards across a range of commodities. The weaknesses of the RSPO, as well as concomitant perceptions of those weaknesses by major actors, have been one component of companies' impetus towards independent standards. Often, these standards are premised on a deeper engagement with a company's supply chains (and as Chapter 7 will demonstrate, longer-term supply contracts and more generous payments to suppliers), which may prove crucial for their capacity to actually alter production and trading practices (see Chapter 7).

Inevitably, this shift poses several challenges, both for schemes and NGOs. For schemes, the fact that companies are looking elsewhere for a mechanism through which industry change can be realised is a self-fulfilling act, since it threatens to undermine their own role and therefore potential contribution. Where schemes are reliant on ever-greater coverage and this coverage is not forthcoming, other actors – including those both within and without those schemes –have begun to question whether the compromises made as part of those schemes are ultimately worthwhile in contributing to slowing deforestation from timber and palm oil.

For NGOs, this same shift imposes a burden of monitoring and assessing individual company policies, undermining the ability to gather companies together within the tent provided by a single, consensus-based scheme. Yet the harmonisation of policies through the CGF's efforts, for example, could ease this burden considerably. Even greater assistance could arrive in the form

of either mandated reporting requirements on purchases of the deforestation commodities and associated carbon emissions, the latter of which is now required of companies listed on the London Stock Exchange, or in an increase in state shareholder activism, such as currently pursued by the New York State Comptroller's Office. Indeed, the importance of these examples is in their suggestion that, while not being in a position to regulate production of the deforestation commodities directly, governments nonetheless have several options open to them to better and more robustly engage and support private sector (and by default, NGO) responses. In light of the now increasingly-understood limitations of certification, these possibilities will be increasingly important to negate the behavioural-derived limitations of private sector-civil society dynamics and to better prosecute governments' role as keepers of the public interest. Yet governments are also subject to limitations on their responses to traded deforestation, especially of a regulatory variety. The following chapter canvasses and examines these limitations.

Chapter 6 Policymakers' perspectives: Sensitivities & constraints

The previous chapter explored the current dynamics – or model – within which the private sector and civil society respond to traded deforestation, concluding that these dynamics are prone to counter-productive outcomes and misguided efforts. The premise of that exploration was the idea that multiple processes of globalisation have strengthened the hand of major, branded companies within supply chains. This chapter will now turn to another implication of that premise, which is that the processes of globalisation have weakened, or at least posed additional challenges, for governments who seek to respond to the problem of traded deforestation. Specifically, the chapter will examine the perceived constraints and sensitivities for consumer country governments in their current attempts to respond to traded deforestation, providing a complementary understanding to that of the previous chapter.

Immediately, the challenge of responding to traded deforestation is more complicated for consumer governments than for companies, because governments perform a broader set of relevant roles. While governments, like companies, are purchasers (procurers) of commodities in their own right, they also perform two additional roles, in shaping the regulatory context for other domestic actors, and entering into bi- and multi-lateral agreements with other governments. Governments have already developed responses to traded deforestation within each of these roles, specifically by:

- developing public procurement policies for timber (26 national governments; plus the UK for palm oil);
- creating laws requiring domestic businesses to undertake due diligence on imports (and in the US, subsequent domestic trade) of foreign timber products (the US, EU and Australia); and
- signing agreements with timber-exporting countries to improve forestry governance (the EU through VPAs with six countries, and the US through chapters in select bilateral trade agreements, eg. with Peru).

Underlying existing government responses – and just as importantly, responses that have not been enacted – are a set of sensitivities and perceived constraints that shape policymaker perceptions of their need and capacity to respond to traded deforestation. To understand why consumer governments have not simply mandated the 'sustainability' of all timber or palm oil imports, for example, or publicly demanded an immediate halt to tropical deforestation from other governments, requires an awareness of these sensitivities and constraints. The task of identifying them, and mapping their consequences, is the task towards which this chapter is

dedicated. If further, or more robust, responses are to emerge from consumer governments, these sensitivities and constraints will need to be navigated and overcome.

Governments and traded deforestation: three themes

As the previous chapter detailed, NGOs have been instrumental in raising companies' awareness of traded deforestation, often through confrontational means. Through the design of their sourcing policies, their participation in Roundtables and through multiple workshops (such as Innovation Forum, 2014) aimed squarely at instigating action, companies are being actively courted and harried by NGOs to respond to deforestation commodities within their supply chains. All of this activity and momentum represents the framing, which NGOs have actively perpetuated, of traded deforestation as primarily a private sector problem, as the previous chapter also noted.

An obvious question for this 'companion' chapter on governments to pose, then, is what level of awareness about traded deforestation exists within consumer governments, especially the Western governments that have already enacted responses? Discussions with participants familiar with the decision-making of the US, EU, Australian and NZ governments revealed three related themes, each of which is presented below. The first theme was participants' consistent assertion that policymakers generally exhibited a low level of awareness of the problem, as the following quotes demonstrate:

> *"It [traded deforestation] is not terribly much on the horizon, I don't think it's had too much of an impact on government as yet" [20],*

> *"I don't think the debate on this issue is really that mature yet. It's beginning to be talked about in the EU by civil servants, but not so much by politicians yet..." [21],*

and,

> *"Something that's been quite striking to me... is the degree of ignorance about the importance of forests and the fact that they are being converted to grow commodities that we then import. The level of awareness about the basic relationships is pretty low..." [19].*

It is almost unimaginable that such 'low level of awareness' could exist within the leadership of any company involved in sourcing deforestation commodities, due largely to the success of NGOs' (various) tactics. Yet it is unclear whether the lack of awareness within governments is cause or effect (or both) of NGOs' decision to instead target the private sector. Certainly, as

Chapter 4 reported, the unsettled responsibility for traded deforestation within consumer countries has to date allowed governments to echo NGOs in defining it as a private sector problem. These quotes also draw attention to the likelihood that governments do not always conflate tropical deforestation, a problem that has been publicly discussed for its relationship to climate change, and traded deforestation, the aspect of that problem that is of particular relevance to jurisdictions beyond the tropics. Although perhaps a more nuanced picture of government awareness is required; more than one participant noted that governments are *"not monolithic"*, and consequently, as one participant continued, *"there's a high degree of awareness in certain pockets and zero awareness in other pockets and it depends on the policy instrument you're talking about" [19]*. These perspectives support Vermeulen and Kok's (2012) finding of 'the absence of an integrated, coherent policy strategy, with various ministries [within the Dutch Government] each stressing different main goals and making different choices in applying instruments' (p194).

As both chapters 1 and 4 noted, existing government responses have exhibited a number of biases, including towards timber at the expense of the other commodities implicated in deforestation. The above quotes indicate the possibility that this bias towards timber may in fact stem from a low 'level of awareness of the basic relationships' between certain commodities and contemporary tropical deforestation, the science of which was set out in Chapter 1. While this possibility is by no means overturned by the material introduced later in this chapter, it will however become clear that there are other reasons why this bias may have emerged. Any expectation that, by itself, remedying governments' low levels of awareness would lead them to develop policy and regulation for the non-timber deforestation commodities is probably unrealistic, even if it remains a necessary condition for any such response.

A second theme to emerge from discussions with participants was that even within the 'pockets' of awareness about traded deforestation, there was nonetheless little clarity on how consumer governments could – or should – respond to the problem. After being asked directly whether there was clarity on the role of governments in relation to this problem, one NGO representative noted,

> *"Probably not. Some of these things are quite new. That probably points to another reason that we think it's more effective and more efficient to work with industry. Traditionally industry are far better at innovating and evolving markets, if it's left to government it's going to be too slow, it's going to be too lowest-common-denominator" [5].*

Other experts similarly felt that,

> *"...at the very highest level there's not a great degree of awareness about either the importance of the forests or the new drivers of deforestation and what can be done about them, you know, I just feel that the level of political awareness is pretty limited" [19; emphasis added],*

and,

> *"Even those countries that are publicly committed to addressing the drivers of deforestation as consumer countries really didn't know what they could do... Developed country governments feel at a loss for what to do... I think that's really [the problem]... but I'm not saying that's an excuse!" [18].*

Even within areas of government where awareness of the 'basic relationships' of traded deforestation exists, then, there is an even greater uncertainty over the possible responses that governments could enact. Explaining why governments might be 'at a loss for what to do' necessarily goes beyond the tangible problem of the import of illegal and unsustainable commodities. Were this the sum total of the challenge, the efforts of at least two governments (the EU and US) to canvass possible responses – through the publicly available EU Consumption Report series (EEA, 2010) and the latter behind closed doors and referred to below – would have probably been sufficient. But consistent with this chapter's direction, governments' sense of impotence on this policy problem – not to mention the reasons why governments have tended to exhibit biases towards timber and legality – is intertwined with the constraints and sensitivities they perceive, and which this chapter seeks to locate.

Together with a low level of awareness and a sense of uncertainty about how to respond is a third theme identified through discussions with participants: the distinct lack of profile given to traded deforestation within policymaking circles. One participant emphasised this theme in relation to two separate responses that the US Government is involved with, noting:

> *"I don't think any of those [pockets] – maybe with the exception of the biodiesel one [the US biofuels framework] – would be on the radar screen of a cabinet-level political official",*

and in relation to the Tropical Forest Alliance,

> *"This just doesn't feel like a thing [that has] a lot of energy and urgency behind it" [19].*

These three themes are, understandably, inter-related; a policy is unlikely to have 'energy and urgency behind it' in either the absence of an awareness of the original policy problem, or under uncertainty over the most appropriate response. And as later sections in this chapter will demonstrate, when responses *do* achieve a higher political profile (as occurred after the first

raids under the Lacey Act Amendments, for example, or the pending determination on palm oil under the US biofuels framework), this stature is an indicator of significant sensitivities or constraints which may undermine as much as contribute to responses' capacity to contribute to slowing deforestation.

On the whole these themes of low government awareness, certainty and profile are just as much symptoms as problems; by themselves they could be easily remedied. However, as the remainder of this chapter will demonstrate, what these themes suggest is the implicit presence of deeper concerns entangling, and shaping, consumer country government responses to traded tropical deforestation. Three major 'categories' of constraint – foreign audiences, international trade law, domestic audiences – were identified through careful analysis of existing policy documents and with the aid of discussions with participants. These three categories form the bulk of the chapter and are now explored sequentially.

Constraints from foreign audiences

Respect for sovereignty

The nation-state system of governments rests on the principle that each country is sovereign over its own jurisdiction. One of the immediate difficulties of trying to ameliorate tropical deforestation from beyond the tropics, then, is the implicit need to try to change practices, behaviours and even norms *within another sovereign state*. And while foreign companies are sometimes faced with the accusation of interfering in the sovereignty of states, foreign governments are especially vulnerable to this accusation given the foundational position that respect for sovereignty occupies in the international system.

Forming a backdrop to these accusations is the added issue of significant disparity in levels of economic development between relatively wealthy consumer countries – the US, EU and Australia – and the primary producing states for the deforestation commodities – including Indonesia, Malaysia and Brazil but also many smaller nations from southeast Asia, west Africa and Latin America. Many of these latter countries are regarded – economically – as developing or transitional. With respect to traded deforestation, the importance of this disparity between countries is that it affords producers of the deforestation commodities a series of arguments with which to react to any (proposed) downstream responses that could be construed as threatening to domestic timber, palm oil, soya and beef industries. As the discussion below will show, producer countries have readily deployed the following three arguments:

- 'we have a right to make our own decisions' (the sovereignty argument);

- 'we are still developing' (the developing-as-special-case argument); and
- 'you are trying to discriminate against our industry' (the WTO law argument).

So how, firstly, does the need respect sovereignty inhibit consumer country governments? One participant noted the example of the US Government being unwilling to publicly commit to certain over-arching objectives, such as 'no-deforestation', that tropical countries – those that are mainly deforesting – might perceive as an intervention in their jurisdictions. Contrast this with the private sector's current coalescence around 'no net deforestation' as an objective, as evidence by a recent workshop aiming to align working definitions of this term (The Forests Dialogue, 2014).

The reluctance on the part of the US Government to entertain this term emerged during the development phase of the Tropical Forests Alliance (TFA), after it had joined the Consumer Goods Forum (CGF) and was deliberating on the nature and scope of its involvement. When the TFA was announced at Rio+20 in June 2013, the two major actors (other governments have since joined) were yet to agree an overarching objective for the initiative. The CGF, however, was already clear about its own objectives, having decided at a board meeting in November 2010 to 'mobilise resources within our respective businesses to help achieve zero net deforestation by 2020' (CGF, 2014b). For the US Government in its own right, this objective was less straightforward to adopt. As one expert reports,

> *"I have seen [respect for sovereignty] play out even in terms of being hesitant to define the objective... The US Government was not willing to sign on to an objective of zero deforestation by 2020 by anybody... So within the TFA or other efforts in this area, [the US Government] is very hesitant to use the phrase 'deforestation-free' or 'zero deforestation' or 'zero net or gross deforestation'" [16].*

There are multiple sources for this reluctance, although the need to respect sovereignty remains primary. There are also significant technical difficulties involved in assessing deforestation, for example, including whether plantations are classified as 'forests' (a controversial decision that underlies the significant expansion of China's forested area over the last few decades; FAO, 2010). Also relevant is the historical – and current – fact that the US (as well as other consumer countries) cannot claim itself to be 'deforestation free'. The above expert confirmed these as supporting factors, continuing,

> *"...but we [the US] can't also say zero deforestation because we don't even meet that [objective], you know, we clear forests ourselves. We... took advantage of that when we cleared our forests a hundred, two hundred years ago" [16].*

Indeed, even one participant who was disdainful of the use of arguments to respect sovereignty – *"I've heard them a lot. I don't buy it" [20]* – was quick to acknowledge this as a basis of complaint, saying that,

> *"What I do buy is the argument that essentially it's hypocrisy. There's a lot of hypocrisy around, [for example], like expecting [other] countries to adopt stronger environmental standards than we've got in our own countries..." [20].*

Another downstream country, Australia, is perhaps even more vulnerable than the US to the hypocrisy argument, given that FAO data from 2000-2005 places it alongside Brazil and Indonesia as the only countries with forest clearance rates of over 5 000 square kilometres annually (Economist, 2011). At the time of writing, the Australian Government has also moved to delist a UNESCO World Heritage site containing old-growth temperate rainforest in Tasmania in order to allow logging in parts of that area. This domestic record becomes a vulnerability when, for example, Australia's current Minister for the Environment claims 'Nothing would do more to rapidly decrease the risk of climate change than a major plan to protect global rainforests' (Hunt, 2013).

However, despite the importance of technical difficulties and vulnerability to claims of hypocrisy, by far the biggest concern for the US Government in considering a 'no-deforestation' objective was the desire to avoid being *"seen as impinging on developing countries' rights to define those objectives themselves"* or *"telling producer countries what their goals should be, not respecting their sovereignty to develop" [16]*. There was a strong sense within the US Government, then, that it couldn't *"define the [deforestation] goals ourselves, because the goals should be coming from these sovereign producers" [16]*. It is this sensitivity that led the US Government to take the eventual step of signing on *"to support the CGF in its objective to eliminate deforestation" [16]*, which is further reflected in the final language found in the TFA 2020 Factsheet, namely 'the goal of reducing the tropical deforestation associated with key global commodities' (TFA, 2013:1). As the participant conveying this narrative, who was close at hand to see it unfold, concluded, *"That's a subtle but important difference" [16]*.

An acute perception of the need to respect sovereignty, then, can affect downstream governments' behaviour in defining the objectives of possible responses to traded deforestation. Just as importantly, another participant suggests that this perception can explain the absence of further regulatory responses, such as illegal logging regulations, for other traded commodities:

> *"Maybe because of the sensitivities of affecting what goes on in another country, I don't think there's a great willingness to create a regulatory system for sustainability..." [18].*

Yet without further regulatory-based responses to traded deforestation, what options remain for governments? Judging by governments' rhetoric on responsibility, introduced in Chapter 4, and confirmed above by participants, governments have instead opted to cast themselves in a non-regulatory, supporting role for the private sector. The TFA merely provides an institutionalised case of this role. The participant confirmed the attraction of this approach for governments, explaining,

> *"... and so what all the governments are looking to do is create a system in which they're promoting companies who are doing sustainable activities or purchasing sustainably produced products" [18].*

This explanation is equally apparent in the Joint Statement made by the UK, Norway, the US, Germany and Australia, which included a commitment to 'Support efforts to transform the supply chains of the commodities that put pressure on the forest' (Joint Statement, undated:1), as well as the UK Prime Minister's intention to 'work closely with businesses in pursuit of these goals: to source and produce sustainable timber and palm oil and to tackle the wasteful and inefficient practices that are driving deforestation' (O'Brien, 2012).

Overall, then, the sovereignty line of argument has prevented governments from responding to traded deforestation through regulatory means, instead channelling their efforts into a supporting role for the private sector. Yet how genuine are these intentions? Participants were generally sceptical, pointing – for example – to the lack of any notable contribution that the US Government had made to the TFA:

> *"... I got the distinct impression from [the US Government] that their role was to cheerlead rapid implementation of the CGF commitments... there didn't seem to be any impression that they as a government that had signed up to this thing needed to make any commitments of their own. So... all this hand-waving about public-private partnerships but – you know – what are you going to do differently? What are you bringing to the table there? And the last time I checked, I still hadn't heard a good answer to that question..." [19].*

One concrete action taken by a government is the UK Government's palm oil mapping project (Bottriell et al., 2011), which established an understanding of both the magnitude of imports of that commodity as well as rough estimations of its end uses within the UK. This project formed the basis for the UK Palm Oil Statement (DEFRA, 2012a), which as Chapter 5 noted was met with disappointment by the section of the private sector that had already adopted more ambitious targets for that commodity. Unfortunately too, despite the UK's initiative in mapping

its imports, this example does little to disprove the possibility that governments feel compelled to 'do anything differently' at all. As another participant concludes,

> *"I'm not sure any developed country government has really figured out what this relationship is... they all talk about engaging the private sector, but I have really yet to see any example of what that actually means" [18].*

Another point to consider is whether consumer governments are overplaying their deference to sovereignty. Multiple participants had reservations about the sincerity of the use of that argument by producer country governments, with one proposing that,

> *"[Sovereignty] can be a device to avoid scrutiny of one's own environmental standards" [20],*

and another noting,

> *"[Sovereignty] is always a good excuse not to do anything..." [21].*

The sensitivity shown by consumer country governments for the sovereignty of other countries has been highly consequential. It has helped to cruel the prospects of regulatory responses to the deforestation commodities and reinforced the extant framing of traded deforestation as primarily a private sector problem. And yet it may not be that essential to defer to it so profoundly, because – as participants allege – producer countries can be less than authentic in their use of the argument. Indeed, the WTO tribunals are replete with cases where countries – including the EU, US and Australia – apparently felt no such need to refrain from regulatory action on the basis of sovereignty. This suggests that sovereignty is merely one of several sensitivities perceived by downstream policymakers, and in itself unlikely to be a sufficient constraint.

Deforestation as development

'Development' is the battleground to which many arguments on sovereignty eventually lead. In emphasising the US Government's need to *"respect [countries'] sovereignty to develop" [16]*, this participant notes a particularly salient, and fractious, point. Given the aforementioned disparity in the levels of economic development between countries, the governments of (the generally wealthy) consumer countries are wary of displaying any intentions that could be perceived as interrupting, or restricting, the developmental processes of producer countries.

Yet if this unwillingness were carried to its ultimate conclusion, it would necessitate silence on the continuing deforestation within producer countries. This position seems untenable in the abstract and has been countered in practice by statements – albeit carefully-worded – proposing reductions in deforestation. So how intricate is this bind, and can it be navigated? Can a concern with tropical deforestation co-exist with a default acceptance of *all* and *any* further development when, for example, that might be realised through the continued expansion of the palm oil industry in southeast Asia and central Africa, or the soya and beef industries in the Amazon?

The problem with accepting the 'development' argument outright is that it may not be possible to completely disconnect development from further clearing of forests (Butler, 2013b). In fact, it is strongly likely that pursuing continued economic expansion of the industries behind the deforestation commodities will result in similar outcomes for tropical forests to those witnessed – and objected to – over the last three decades. While significant effort has been targeted at resolving this tension, by identifying degraded lands in Kalimantan (Indonesian Borneo) onto which palm oil could expand, for example, entrenched legal barriers remain (Rosenbarger et al., 2013). More systemic difficulties also persist, as Lambin and Meyfroidt (2011) identify when they note that in 'cases involving cash crops for rapidly expanding global markets' – such as soybean in Brazil and oil palm in Indonesia and Malaysia – 'agricultural intensification encouraged more [rather than less] cropland expansion' (p3468). Similarly, Bartley (2010) reports that for timber in Indonesia, 'the [government] has encouraged the growth of industries with an insatiable appetite for timber and a reliance on natural forest concessions to feed that appetite' (p16). In an interesting echo of the 'too big to fail' narrative heard in the US during the 2007-08 financial crisis, Bartley contends that 'the government won't let the industry collapse from lack of raw materials because plywood is too important for the economy' (ibid.).

These examples demonstrate a clear difficulty in consumer governments' tendency to tiptoe around the development argument: the very pathways and processes of development that many producer countries are intent on pursuing are structured around the continuing expansion – economic, though almost inevitably also physical – of the industries currently implicated in deforestation (Butler, 2014b). (Even more broadly, many other development activities – such as an expansion in Indonesian coal mining or Peruvian gold mining – are also being realised at the expense of tropical forests.) At the same time, the industries producing the deforestation commodities, especially palm oil in southeast Asia and Africa, are strongly supported and sponsored by producer governments for their development outcomes (Djama et al., forthcoming). The national importance of these industries is intricately tied to their potential to contribute to the further development of producer countries.

The perceived importance of the industries to producer countries is observable in the reactions that have emerged to proposed consumer governance responses. The examples of the proposed Australian palm oil labelling and proposed French palm oil tax – both of which failed to be adopted – evoked the following vociferous reactions from the Malaysian Government and the Malaysian Palm Oil Council, respectively:

> '[The Australian 'Truth in Labelling' Bill] reflects that the Australian Parliament is going against their own policy by *restricting economic development* in Malaysia... Given that Malaysia is a developing nation, the Malaysian Government also wishes to express concern that the Australian Senate is seeking to create prejudice in Australia towards products produced in developing nations and seeking to hinder the growth and economic development in developing nations' (emphasis added; Malaysian Government, 2011:1 and 11),

and,

> 'The passing of the palm oil amendment by the French Senate was not based on science, and was *an unjustified attack against hundreds of thousands of small farmers* across Malaysia' (emphasis added; MPOC, 2012).

For participants in the present study, these reactions are assured for any consumer government response. As one expert concludes,

> *"I think [for] entities like the Malaysian Palm Oil Council it's their full-time job to manufacture those story lines [opposing perceived threats to the industry]... and now [those storylines] are deeply embedded in a lot of the heads of business leaders and government officials and it's going to be hard to dislodge them" [19].*

The palm oil industry in particular has been the subject of consumer government scrutiny over the last decade, with concomitant reactions from producers. Additional government responses to bear the brunt of palm oil industry lobbying include the US biofuels program, the RFS 2, which is expected to make a determination on the sustainability requirements for that crop in early 2015. At the multilateral level, the World Bank's review of its palm oil lending policy (a response technically beyond the scope of this present study, due to its financial nature and production-focus) provoked the wrath of a Nigerian public intellectual, Thomas Ayodele, who authored a New York Times editorial called 'The World Bank's Palm Oil Mistake', touching on familiar themes:

> '[The World Bank's review of its lending policy] undermines poverty alleviation programs in Africa and will increase food insecurity on the continent. Despite the Bank's acknowledgement of the palm oil sector's successful role in alleviating poverty, sector support has been undermined by radical Western environmentalists' hijacking of the Bank's lending policies... *The Bank should reaffirm its commitment to supporting development* and reducing poverty, *and firmly reject dictating to and limiting industry and sovereign governments*' (emphasis added; Ayodele, 2010).

In this editorial, several lines of argument - including both development and sovereignty – deployed by producer countries are run together, combined with a brash reference to unnamed 'radical Western environmentalists'. Overall, these outbursts are reflective of both the development priorities of producer countries in the abstract, as well as entrenched economic interests, and consequently power, in practice. As one participant confirms, this combination – subsumed under arguments around 'development' – has been critical for consumer government behaviour:

> *"I think this all partly helps to explain why this debate [on non-timber deforestation commodities] isn't moving very fast. It's more complicated than the illegal logging thing was, and you're involving bigger industrial interests of course, and trade interests, and so on, so it is trickier" [21].*

Arguments about development, like those about sovereignty, can be calculated to dissuade consumer governments from enacting certain responses to traded deforestation. At the very least, they are intended to shape responses favourably for producer country industries, such as securing the best possible treatment within biofuels frameworks. So far these arguments can claim to have been successful, contributing to the failure of both the Australian palm oil labelling and French palm oil tax, as well as limiting the range and number of responses that consumer governments have enacted for non-timber deforestation commodities. This sensitivity, then, of needing to maintain a code of silence on other countries' development pathways, is at least a latent – if not an already activated – constraint on consumer government responses.

Apparently paradoxically, examples from beyond the problem of traded deforestation show that some of these same governments have at other times been willing to contravene this silence. Consider the National Illegal Wildlife Trafficking Strategy (Obama, 2014), for example, which stated (alongside the usual harmonious intention to 'encourage, collaborate and support all other interested governments'; p9) that it would,

> 'respect cultural and national sensitivities even as we ask communities to reconsider longstanding traditions that might incentivise or contribute to wildlife trafficking' (Obama, 2014:9).

Even more antagonistic was the UK Government's opposition to a British company's plans to conduct exploratory drilling for oil in Virunga National Park in east Africa, a park that is home to one of the two remaining populations of the highland gorilla (Hance, 2012c). (The Democratic Republic of the Congo Government responded in a style characteristic of such debates: 'We'll see whether we'll respect the park or not. It's up to us'; ibid.) Just as with sovereignty, these examples suggest that the code of silence around other countries' development pathways and priorities is not immutable. However, these examples remain exceptions rather than the norm, even more so when consideration is limited to the responses to traded deforestation. The Tropical Forest Alliance, for its part, holds a clear position on both sovereignty and development when it states that the TFA will:

> 'Recognise the authority of national and domestic regulatory systems for land and forest management',

and,

> 'Emphasise the importance of country ownership and responsibility, tackling the drivers of tropical deforestation using a range of different tools that are appropriate to achieving each member's goals' (TFA, 2013:2).

As the perspectives introduced here have shown, the sensitivity which this development must be treated – especially as it relates to major foreign industries – is a significant constraint both on the emergence, and ultimate shape, of consumer government responses.

Affecting trade flows

A further consideration constraining consumer country governments is the potential effect on trade flows and trade relationships that responses could precipitate. As one NGO participant records,

> *"there are opportunities [for further government responses]... but there is also the issue of governments being reluctant to upset trade partners, ... diplomatic relationships, and that sort of thing" [5].*

As with arguments about both sovereignty and development, the sensitivity about affecting trade flows shown by policymakers provides producing countries with a further line of argument to attack downstream regulation and policy. (Domestic actors also voice this concern, as noted in a later section in this chapter.) There is no doubt that this fear is genuinely held, as evidenced at 2013's United Nations Forest and Climate Change Convention (UNFCCC) meeting. As one participant in this study conveyed, consumer country governments were alleged to have inserted text into a draft of the meeting's report that not only recognised traded deforestation but also allocated responsibility with the *consumers* of the deforestation commodities:

> *"[So the story is that] there's this language [in the draft UNFCCC documents] that says deforestation is because of consumption, but it was actually the developing countries that didn't want that language and completely opposed it... [My opinion of the story there is that] the countries that produce a lot of these commodities were really uncomfortable with any language that might look to their governments when they brought it home that it might be imposing any trade restrictions or going to affect their trade at all" [18].*

This report from the frontline of inter-governmental negotiations on tropical forests is remarkable, for two reasons. Firstly, it shows that despite the sensitivities involved, consumer governments have been willing to publicly acknowledge the role that their consumption of palm oil, soya, beef and timber plays in driving deforestation. Such acknowledgement is likely to be a necessary precursor for some downstream jurisdictions to justify responses to domestic audiences (about which, see below). So the assertion made in Chapter 4, that responsibility for traded deforestation remains unsettled, therefore needs to account for the fact that it may in fact be deliberately left unsettled. Secondly, despite their frequent outrage at the criticism these industries receive for their roles in driving deforestation, producer countries are unwilling to accept the problematisation of their industries, presumably due to fears of its consequences in terms of precipitated responses.

At least part of the explanation behind this stance consists of suspicion over how genuine the basis might be for consumer country concerns about traded deforestation, in government and beyond. As one expert explained:

> *"Yeah, it's a huge problem. I was in Indonesia about a year ago and it was astonishing to me the degree to which so many of the government officials and private sector people associated with the [palm oil] industry genuinely believed that all of the concern about palm oil was a wholly fabricated creation of the US soybean oil lobby, and that all of this NGO advocacy about forest fires or orang-utans or anything else was all a made-up*

campaign financed by protectionist interests in the US. I mean... they genuinely believed it. That's what they thought: All of this palm oil stuff was protectionist-motivated" [19].

The paradox of these concerns, as the following section in this chapter will show, is that international trade law is in fact so firmly oriented towards preventing any protectionist regulation – whether in motivation or consequence – that this law is itself a significant constraint on consumer governments' potential to address traded deforestation. Within a governance framework structured to prevent protectionist regulation, producer countries' defence against any such regulation is in many senses actually stronger than consumer governments' capacity to address their own connections to traded deforestation.

At this point, it seems necessary not only to note but to explain the clear exceptions to these arguments, in which consumer governments have initiated and enacted regulatory responses to traded deforestation: namely, the US', EU's and Australia's illegal logging laws. All of the sensitivities identified so far in this chapter – sovereignty, development, effects on trade and protectionist intentions – would seem to apply equally to timber as to the other deforestation commodities; timber industries are domestically significant in many producer countries and they are relevant to countries' development objectives; regulatory responses to timber imports could also be perceived as an intrusion on sovereignty and threatening to these industries' trade flows. So how can the emergence of these laws within this context be explained? And more opportunistically: given these remain the only regulatory responses for a deforestation commodities, what has been their effect on trade flows?

One of the crucial advantages that this legislation has is its focus on illegal logging, which is a recognised environmental problem certainly, but at the same time an economic problem that costs timber-producing governments significant lost revenues. This problem has become so severe that producer countries have themselves called for foreign help, as Chapter 4 noted. In comparison, until recent efforts (Lawson, 2014), knowledge of the widespread illegality that also exists in the production and trade of other deforestation commodities lagged significantly. (Acceptance of this knowledge certainly lags still.) So the profile, understanding and acceptance of illegal timber as a problem – including crucially, by producer governments – provided a smoother path towards regulatory responses than exists for other commodities.

With respect to sovereignty, Cashore and Stone (2012) note that illegal logging laws 'focus on reinforcing governing capacity and hence sovereign authority in producing countries' (p18), with:

> 'preliminary indications that government officials in both countries now see the EU and US legislation as evolving to currently pose little or no infringement, on their own domestic commitments' (p18).

Participants in the present study agreed, noting that because illegal logging is defined on the basis of the laws of the harvesting country, these laws are effectively *"just a way of supporting and importing good governance, and supporting legal requirements" [17].* A second participant concurred:

> *"I think one of the positive aspects of the EU FLEGT and VPA kind of approach is that at least ostensibly it's a partnership where the control of illegal imports into Europe is directly linked to what the exporting countries want to do within their own country... So 'we're helping you enforce your own law' type of thing, so it's not an evil Western imposition of values that don't match up..." [19].*

The focus of illegal logging laws on legality, in addition to helping to navigate international trade law (the subject of the next section), also helped to defuse the potential sovereignty concerns of producer countries. However, other sensitivities remained undiminished. In its submission to the second Senate Committee enquiry on the draft Australian illegal logging laws, the Indonesian Government objected to various elements of the Bill and stated that 'it is essential to ensure that the proposed bill does not cast a shadow over our overall trade relations' (Government of Indonesia, 2012:2). Even after the Australian illegal logging laws were passed by the Australian Parliament, concerns over the laws' impact on trade flows continued to be expressed by representatives of two other major countries involved in the global timber trade. For example, after the Australian delegation's presentation of the details of its newly-passed laws at an APEC Illegal Logging Working Group in 2013, the Russian delegation effectively asked, "Why is Australia doing this?" and the Chinese delegation noted that "it would be a shame if this affected trade from China to Australia" (personal notes; June, 2013).

Addressing this latter comment, it is pertinent to now ask: what effects on trade flows can be attributed to illegal logging laws, as the sole consumer government regulation targeted at traded deforestation? Given the EU's status as the world's largest timber-importing jurisdiction, the impacts of its version of illegal logging laws – the EU TR – are being keenly observed. Even prior to its implementation, research on its predicted impacts was commissioned, for example, by the Bolivian timber sector, due to a 'fear that from the introduction of the EU TR in March 2013 there would be no possibility of continuing exporting Bolivian timber products to the EU market, without there being a signed Voluntary Partnership Agreement (VPA) [with the EU]' (Carden et al., 2012:3). Research on the observed effects of the EUTR is also being conducted by

the European Timber Trade Federation and the International Tropical Timber Organisation (ITTO), among others. The ITTO's Market Information Service asserted in the first half of March 2013 that 'the plywood market has already been significantly affected by the EUTR' (ITTO 2013:1). Interestingly, the (limited) evidence presented suggests a surge of imports of Chinese plywood into the EU at the end of 2012 and in early 2013, before dropping off with the introduction of the EUTR. *Ceterus paribus*, this trajectory would suggest that there is some portion of the EU's timber industry that benefits from unscrutinised timber imports, whether that derives from illegal timber or simply from avoiding the new due diligence requirements.

As suggested by the US experience with its illegal logging laws – the Lacey Act Amendments – a tension also exists between the determinedness with which these laws are enforced and their likely effects on trade flows of timber. With weak enforcement, effects on trade flows may be minimal; conversely, with diligent enforcement, those effects will be maximised. Both the importance of maintaining domestic support within the EU, US and Australia for these laws (as explored in the 'Domestic audiences' section below) and the consumer government concern that trade flows be minimally affected push in the same direction; specifically, towards weaker enforcement and smaller 'distortion' of existing trade flows. As Chapter 4 explored, these laws are an example where the multiple objectives of a response threaten to result in trade-offs between those objectives.

The notoriously complex structure of global timber flows (Dauvergne and Lister, 2011) also means that realising effective enforcement of illegal logging laws cannot reside solely within the consumer jurisdictions that have implemented them. In order to meet consumer country requirements for due diligence and legality, processing countries such as China and Vietnam first need to enforce those requirements on their own imports, the bulk of which arrive from Indonesia, Malaysia, PNG, the Solomon Islands etc. Thus the willingness of processing countries to encourage compliance from source countries is paramount. If these processors disregard these requirements from the consumer ends of their supply chains, the EU, US and Australia would then face a puzzle in either compromising on the objectives of their legislation or consciously affecting any trade flows that transition through processing countries. One policymaker in this study appraised the situation guardedly, saying *"We are all waiting to see who [between the EU and China] will blink" [11].*

Of course, this political and economic struggle over who 'blinks' carries different connotations for the EU, at one extreme, compared to Australia at the other, with the latter's far less significant timber import volumes. This differential vulnerability recalls Chapter 4's introduction of the concept of coverage, which translates readily to market power. For

Australian policymakers, this vulnerability is *"front of mind" [11]*, though it is likely to be mitigated by the prior implementation of both US and EU illegal logging laws, creating an opportunity for learning.

Given the difficulties consumer governments have faced in responding to trade in illegal timber, a problem that producer countries have themselves acknowledged and called for help in addressing, the prospects for additional regulatory responses for other deforestation commodities seem very modest. At least partly, the difficulty of that challenge stems from the need to address, or manoeuvre around, producer country concerns that sovereignty will be intruded upon, development interfered with, trade flows affected and protectionism pursued. Consumer governments currently sit at an impasse, rendering existing illegal logging laws –with their success not yet assured – a possible high water mark in government responses to traded deforestation. Further constraints and sensitivities, including both the structure and spirit of international trade law, make responding to non-timber commodities even more challenging, as the following section examines.

Constraints from international trade law

Governments are not free to regulate as they choose in matters that affect international trade. The primary body through which international trade is governed is the World Trade Organisation (WTO), which oversees the *General Agreement on Tariffs and Trade* (GATT), agreed in 1994. The 'General Exceptions' provision of the GATT – Article XX – includes the following statement and clauses:

> 'Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:
>
> > (b) necessary to protect human, animal or plant life or health, and
> >
> > (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption' (extracts from GATT, 1994, in Perez, 2006:395).

Even while allowing for these two 'general exceptions' of particular relevance to traded deforestation, this provision enshrines the overarching principles of preventing 'a disguised

restriction on international trade' or 'discrimination between countries where the same conditions prevail'. The first of these principles reflects two familiar arguments – the protectionist intent of regulation and affecting trade flows – that producer countries have deployed against consumer governments in relation to the deforestation commodities.

Perez (2006) explains that there are 'two types of trade-environment conflicts within the WTO system: inward-oriented and outward-oriented', where the latter concerns the protection of 'extra-territorial environmental features' (p396). Traded deforestation, where consumer country governments are unable to directly regulate production and harvesting processes, is a stereotypical case of an 'outward-oriented' trade-environment problem, where the central question raised is 'the freedom of WTO members to respond with trade measures to the environmental policies of their trading partners which they find problematic…' (ibid.).

One of the key principles that articulates this freedom, thereby defining the constraints on any possible consumer government regulatory responses, is the 'principle of non-discrimination', which is otherwise known as the 'like products constraint'. As the WTO explains:

> 'The principle of non-discrimination stipulates that a member shall not discriminate… between "like" products from different trading partners, or between its own and foreign products' (WTO, 2015).

Critically for the commodities implicated in traded deforestation, the criteria used to determine 'like' products includes, 'the extent to which the products are capable of serving the same or similar end-uses' (ibid.). The like products principle has profound implications for consumer governments' regulatory options, which this section explores in detail. Perhaps surprising are the nuances of *how* this constraint affects governments' options for responding to traded deforestation, chiefly through its interweaving with – and amplifying of – a raft of other constraints and sensitivities.

Dimension 1 – Legality versus sustainability

Within environmental governance literatures, the most commonly-discussed dimension of the 'like products' constraint is a perceived inability for consumer governments to use regulation to differentiate between sustainable (usually certified) and uncertified *versions* of the commodities, such as timber or palm oil, that enter their borders. According to Humphreys (2003), under the General Exceptions provision of the GATT,

> 'states cannot discriminate against 'like products' (that is, products with similar characteristics or end uses) on the basis of their manufacture (Taylor 1999). This provision effectively rules out discrimination in favour of forest products manufactured according to 'sustainable criteria'' (p47).

This point is elaborated on by Moog et al. (2012) as follows,

> 'In the current neo-liberal context, governments are prevented from supporting global sustainability goals by restricting trade within their borders to the 'highest common denominator' products, such as FSC-labelled timber and wood products, as such preferences could be prosecuted as constituting non-tariff barriers to trade (Humphreys 2006; Bartley 2007; Bernstein 2002)'(p20).

Based on this analysis, the conclusions drawn by these and other authors understandably advocate for allowing governments the discretion to differentiate between sustainable and unsustainable products. For example, Biermann et al. (2012) argue that,

> 'Changes in world trade law to discriminate between products on the basis of production processes are critical if investments in cleaner products and services are to be encouraged, for example, through special recognition for environmentally-friendly products and technologies' (p1307).

Of course, given the arguments already developed in this chapter, major producers of palm oil, soybean and beef can be expected to use the WTO to challenge any moves towards discriminating on the basis of sustainability. Biermann et al. (2012) appear to acknowledge this likelihood when they propose that 'such discrimination, however, must be based on multilateral agreement to prevent protectionist impacts' (p1307). Yet it seems fair to question the plausibility of multilateral agreements arising amidst such pronounced producer country sentiment, suspicion and interests. Indeed, an insight into the likely strength of resistance can already be perceived in the existing attitudes of producing country governments towards sustainability schemes, such as the FSC, RSPO and – outside the forestry sector – MSC. Participants from these schemes have a similar experience of these attitudes, which they express as follows,

> *"The producer countries always use that [argument that sustainability standards are trade barriers] as an excuse not to do anything. So they are not happy [with any role for standards]" [8],*

and,

> *"When [consumer country governments] start using something like sustainability, especially if they use a private standard, it would definitely be a trade barrier suit. It's something [we] already struggle with without governments adopting a private standard. Accusations are thrown around that developing countries can't meet [our] standard and therefore it's a trade barrier, blah blah blah" [7].*

Perhaps thankfully, then, the disdain shown by producer governments to sustainability schemes is both predictable and concrete than the above authors' interpretation of international trade law. In fact, both recent research and the outcomes of actual WTO disputes suggests that the like products constraint may not in fact prove to be a barrier to regulation based on sustainability. In other words, despite its long-running status as a controversial and contested feature of environmental-trade literatures (spurred on by the outcomes of early trade dispute cases), consumer governments may actually be legally able – under the WTO – to differentiate between sustainable and unsustainable versions of imported commodities. As Brack and Bailey (2013) explain,

> 'In fact… no such language [preventing differentiation] exists in the WTO agreements, and the outcome of a number of more recent disputes suggests that discrimination on the basis of 'process and production methods' could be permitted as long as it is carefully targeted… [and adheres to the other aspects of non-discrimination principle]' (p15).

Nevertheless, as these authors go on to note, any such regulation would need to express 'the criteria for sustainability on which the measures are based… in terms of performance' (p16), rather than with reference to any particular sustainability scheme, and further 'it is very likely that trade preferences could only be used for trade in segregated commodities' (p16). For the deforestation commodities, especially palm oil and soya, which are usually handled in 'bulk' and which can be troublesome to segregate, these requirements pose significant challenges. Yet in theory there is no WTO constraint that prevents a jurisdiction from implementing regulatory responses based on sustainability. Even so, responses based on legality both 'raise fewer WTO issues' (Brack and Bailey, 2013:16) and are less vulnerable to the accusations of producer countries raised above.

For these reasons, then, as much as any perception of a hard WTO constraint, governments have opted to focus existing regulatory responses on the legality of imported products. One participant from a sustainability scheme confirms that, *"I think that's exactly right that governments are much more within their rights [focusing on legality]…" [7].* Another participant confirms that: *"it's hard for developing countries to object too strongly when it's legality, so there's*

some real torque" [16]. It is no accident, then, that illegal logging legislation emphasises the laws of the producing country and is therefore seen as 'reinforcing... sovereign authority' (Cashore and Stone, 2012:19).

This orientation towards legality has not been without consequence. As Chapter 4 noted, a host of legality verification schemes – new 'tool' responses – has since been generated, with as-yet undetermined effects on existing sustainability schemes (Cashore and Stone, 2012, canvass various hypotheses of these effects). Sitting under the umbrella of regime theory's contribution that additional responses will not necessarily further responses' objective, a further question of importance for this study is whether an extant regulatory focus on legality will limit the contribution of consumer governments to slow traded deforestation. On this topic, participants in the study were vocal yet disunited. One participant from a sustainability scheme argued that,

> *"[The distinction between legality and sustainability] has been a concern for some people in Europe. I personally don't feel that concern at all. I think first of all that legality is a very important first step towards sustainability ... I'm sure that in most countries, legal management of forests is better for workers, people in the neighbourhoods, but also better for the environment than illegal logging. Maybe there's some exceptions, where the laws are so lousy that it doesn't matter, but I'm sure in most countries it does make a difference. So I think legality is very important" [4].*

Another participant concurs, noting that,

> *"I think right from the very beginning legality was seen as the way into the argument, because in general fewer people are opposed to excluding illegal timber from world markets than they are for excluding unsustainable timber" [21].*

This logic was paralleled in a briefing note for the EU's FLEGT programme, which explicitly answers the question of why that program is focused on 'legal and not sustainable timber':

> 'Legal compliance, which forms an essential component of many sustainable forestry definitions, should be a more achievable target, and a first step in progressing towards sustainable forest management... Dealing with illegal logging and its associated trade... [should establish] a base from which to progress to sustainability' (EC, 2004:1).

Accepting this logic, one US-based expert went on to note that this tactic – using legality as a gateway objective – had been regrettably overlooked with respect to the non-timber commodities involved with traded deforestation:

> *"I think one of the major issues is that the link between illegality and a lot of those [non-timber] products has not been made. That's probably a failing of the environmental movement. We made it really clear on timber, but certainly it's a lot easy for the government to take action on something that's illegal rather than just unsustainable... You know, if we could prove that all of the palm oil coming into the US was illegal, or even a lot of it, I think it would be a lot easier to get the government to take action on it" [18].*

Indeed, recent research (Lawson, 2014) aims to rectify precisely that oversight. The promotion of legality as an 'entry-point' is not, however, universally accepted, with one alternative hypothesis being that focusing on legality might actually detract from (for many actors) the intended end-point of sustainable consumption and production. For example, the NGO Friends of the Earth concludes a lack of 'meaningful changes on the ground' despite 'the establishment of various policies on 'sustainable' and 'legal' timber', arguing that,

> 'A disproportionate amount of emphasis seems to have been focused on eliminating the trade of illegal timber, at the expense of the efforts to ensure the sustainable production and consumption of tropical timber products' (2013:12).

Note that this statement's call for attention to both production and consumption affirms Chapter 3's finding that current responses to traded deforestation have been designed as magnitude-blind. Meanwhile, some academics acknowledge 'a possible conflict... between the principles of legality and environmental sustainability', which could thwart the strategy of focusing first on legal production with the view that sustainable production will follow (Guariguata et al., 2011:14). Similarly, Cashore and Stone (2012) summarise as follows: 'most stakeholders agree that by itself, the relatively narrow focus on 'legality' will be unable to ameliorate key global forest governance challenges, including deforestation from land use change' (p13). Following this line of thinking, one participant from the FSC noted the implication of the orientation towards legality for that organisation:

> *"Then of course at FSC we have the challenge to advocate that legality is not identical to sustainability, and that depends very much on how the laws look like in a particular [producing] country" [4].*

In practice, given the overwhelming use of FSC and PEFC – i.e. certified sustainable timber – to meet the requirements of both illegal logging legislation and public procurement policies for legal timber, the argument against 'settling for' legality seems largely moot. As one participant argues,

> *"...if you put in place a lot of the mechanisms you need to make sure your timber is legal, you're quite some way along the road to making sure it's sustainable as well... most people thought [legality] was a good way into the argument and it opens up space for further developments" [21].*

Another participant agreed and – drawing on some of the regime complex theory's more encouraging arguments – foresaw a potential for synergies between illegal logging laws and public procurement, with the former providing a baseline while the latter created incentives for reaching sustainability:

> *"There's still room for improvement within public procurement; in fact, this is a way to keep raising the bar [from illegal logging legislation]" [17].*

Of course, some counter-arguments to this potential for synergies between responses have already been raised by this study. As Chapter 4 noted, if segregation between sustainable and 'other' timber, with the former directed towards jurisdictions with illegal logging laws and public procurement policies, for example, then as the volume of imports grows (over the medium to long term) there may be greater demand of sustainable timber than supply, enabling legal timber to satisfy the shortfall. Equally possible is the scenario where the jurisdictions demanding sustainable timber are the only ones implementing responses for legal timber, meaning a broadening of coverage, perhaps, but a lowering of the bar. Despite the optimism of participants, then, the distinction between legal and sustainable distinction may be most applicable only *"in the short term" [21]*. It also seems unlikely that the 'discovery' of considerable illegality within other industries relevant to traded deforestation will allow legality to function as a similar entry-point in light of the *"bigger industrial... and trade interests" [21]* involved.

Summarising, then, the like products constraint has been widely interpreted as restricting governments' ability to regulate on the basis of sustainability criteria; yet, with numerous caveats (not limiting to a particular scheme, for example), this interpretation is no longer complete. Nonetheless, consumer governments have felt 'more within their rights' to enact responses – illegal logging laws, chiefly – that utilise legality rather than sustainability as a reference point. The belated exploration of illegality in non-timber deforestation commodities may conceivably open a door to further responses based on legality; equally, however, the producer country sensitivities identified in the previous section may stifle any movement in that direction. Both these points will later be reiterated by highlighting the unambitious behaviour of consumer governments in policy areas beyond the reach of the 'like products' principle, such as public procurement, as a later section will explore.

Dimension 2 – Equality across source country

A second dimension of the 'like products' constraint – this time with a firm and unequivocal legal basis – is that a consumer government 'shall not discriminate… between "like" products from different trading partners…' (WTO, 2015). This constraint clearly affects governments' options for the deforestation commodities, since, as Kastner et al. (2011b) note in relation to soybeans, 'when talking about [environmental] impacts such as land use, deforestation or GM crop-related issues, it clearly makes a difference whether soybeans originate from Brazil, the US or Germany' (p1033).

The fingerprints of this dimension of the constraint are apparent on the illegal logging laws enacted by consumer governments. As Chapter 1 made clear, contemporary deforestation has a tropical face, and these laws are consequently aimed, in large part, at deforestation occurring in Indonesia, Brazil and Peru, Madagascar, west Africa, and the countries of the Pacific (Russia is the only non-tropical country with widespread illegal logging). So tropical deforestation is the intended target of these laws, yet this dimension of the 'like products' constraint prevents the singling out of tropical countries, both in general and individually, within legislation and – more equivocally – its application.

The immediate consequence of the constraint is to prevent governments from undertaking and publishing a risk assessment identifying producer countries where illegal logging is known to be occurring, on the grounds that this would discriminate between countries. This inability has spurred frustration among the actors affected by these laws, as one participant explains:

> *"I've been involved in a range of workshops and a lot of people have said [the government] needs to give businesses more assistance on risk assessment and risk mitigation. For example, we know where the vast majority of illegal logged timber is coming from: it's coming from Indonesia, PNG, Solomon Islands; it's not coming from Canada, NZ, or Europe…" [5].*

This participant continues,

> *"The government accepts that in principle, yes there's data that points to those facts. However, [it] is adamantly unwilling to officially play any role in country-based risk assessment profiling. So it will not come out and say 'imports from Canada or NZ can be deemed low risk, while those from Indonesia or China can be deemed high risk'. They will not come out and say that and have point-blank refused, pointing to WTO obligations where they can't …where that would be… treating goods from one country differently to*

another. So that's an example where WTO requirements around fairness and equality can potentially conflict with the need to assess risk based on certain regions, for example" [5].

In their submissions to the Australian Parliament on its draft illegal logging laws, both the Canadian and New Zealand governments argued – in effect – for regulatory exemptions from the laws on the grounds that the forestry industries within their countries are well-regulated and its products are consequently legal (Government of Canada, 2011; Government of New Zealand, 2011). Yet just as this dimension of the like products constraint prevents the Australian Government, along with the US and EU, from being able to target specific countries in its legislation, it also prevents the exemption of any countries from the legislation.

The clarity of this dimension of the like products constraint explains why several of the options pursued by companies in responding to traded deforestation have not been emulated by governments. While companies may still need to deal with the lines of argument explored in the previous section, they can nonetheless explicitly exclude supplies from the tropics, or particular countries, or regions within countries, or even given producers (a discretion on which NGOs leverage significant pressure). For example, one major European timber retailer has decided to strongly curtail its use of all tropical timber on these grounds: *"the first is the price, the second is the controversy" [14]* . Regardless of its reasons or their soundness, consumer governments could not enact laws that emulate this blanket exclusion.

A positive flip-side also exists in the discretion allowed to companies and denied to governments, since companies can also support supplies from – for example – particular regions where governance is improving and where additional safeguards are being implemented. As one expert explains,

> *"There are jurisdictions in the world that are achieving reductions [in deforestation rates] rapidly enough to satisfy critics... and [t]here are companies that are willing to step up and say 'yeah this a direction we'd be willing to go - we'd be willing to sign purchasing agreements, we'd be willing to shift our purchasing to preferentially buy from jurisdictions that are verifiably meeting these objectives'" [16].*

Companies can therefore target not just their safeguards but also their support at a finer-grain scale than is permitted, under this dimension of the like products constraint, for government regulation. There are, however, ways in which governments can minimise the rigidity of this constraint in its application to illegal logging laws. For example, under the Australian laws (which had the benefit of emerging after initial lessons were apparent from the US and EU laws), importers are required to undertake due diligence according to the risk that a given import

could be illegal. In other words, rather than the Australian Government identifying risk levels from given countries, importers are in effect required to do 'their own homework' and take commensurate precautions, themselves applying differentiated levels of risk mitigation between imports from Canada, for example, versus Indonesia or China. As a participant explains,

> *"So presumably, when we move from risk assessment to risk mitigation, [domestic business] can point to things like the fact that timber comes from Canada therefore we've done nothing to mitigate that risk" [5].*

While achieving the balancing act sought by the Australian Government, however, this tactic in itself has the consequence of imposing a greater burden on timber importers, reinforcing the tendency for the problem of trade deforestation to be framed as primarily a private sector responsibility. Yet in direct contrast to the US' and EU's laws, the Australia Government has sought to make risk mitigation easier by recognising within its laws the sustainability schemes of the FSC and PEFC. Thus a second consequence of this dimension of the like products constraint in the Australian case has been to reinforce the prominence of the FSC and PEFC within the range of forestry certification and verification responses. Thus in two senses, the Australian Government's illegal logging laws have strengthened the role and responsibility of multiple other, non-public actors.

To the extent that this requires companies to engage more deeply with their supply chains, which Chapter 7 will argue is a necessary condition of effective downstream responses to traded deforestation, at least the first of these consequences could be viewed positively. Yet given Chapter 5's conclusions on the limitations – conceptual and behavioural – inherent in the dynamics of private sector and civil society responses, *and in the absence of further responses from the public sector*, the laws' cementing of responsibility with non-public actors may ultimately outweigh the positive effect of encouraging greater supply-chain engagement by Australian importers.

Overall, the Australian illegal logging laws suggest it is possible for governments to adhere to this dimension of the like products constraint without heavily compromising on the need to target the most obvious sources of illegal timber. But governments – Australian and other – may not have extricated themselves completely from discriminating between source countries, since in implementing and enforcing those laws they will need to audit the due diligence efforts of domestic actors. An open question then is whether in doing so they will give equal weighting – in numbers, and rigour – to audits of shipments from all countries, including those where illegal logging is known not to be a problematic issue. A survey of EU member states ahead of the implementation date of the EUTR (in March, 2014) revealed that at least 75 percent of states

planned to use 'source country' as a way to refine their audits of shipments, while some of these also planned to use 'source region' (45 percent) and 'source concessions' (30 percent) (Saunders, 2013:16). At the same time, within an APEC meeting in June, 2013, the Indonesian Government made it clear that it wants to be satisfied that audits of its timber exports to Australia (and presumably the US and EU) are dealt with 'fairly' (personal notes, 2013).

Some tensions remain within illegal logging laws, then, which will need to be resolved one way or another. According to one consumer government policymaker working on this issue, even resolving these tensions through a WTO dispute tribunal – an often combative route – might be desirable:

> *"[Although] WTO rules were 'front of mind' in the design of the Australian Prohibition, no illegal logging legislation has yet been tested in the WTO courts. There's one opinion that it would be good (for everyone) to have it tested, to be proven legal and legitimate" [11].*

Given the design of illegal logging laws to reinforce producer country sovereignty, any challenge to the laws within the WTO would require a producer country or countries to effectively argue against the application of its own laws (Fishman and Obidzinski, 2014). This seems unlikely, even given the economic stakes for timber industries (ibid.). A more realistic challenge to illegal logging laws – within the WTO or diplomatically – could concern the even-handedness of government auditing efforts. Yet if and until this occurs, consumer governments appear to have successfully navigated this dimension of the like products constraint, albeit with the consequences of further channelling responsibility towards the private sector, sustainability schemes and civil society.

A final element to the second dimension of the like products constraint is the complementary requirement that a country's regulation 'shall not discriminate... between its own and foreign products' (WTO, 2015). This principle, designed to guard against protectionism, is foundational to the WTO. It is also highly consequential for any responses to traded deforestation, since it requires that regulating governments on illegal timber, for example, subject domestic timber producers to comparable requirements as those applied to foreign producers. The effect of this principle is to dash the possibility that, under international trade law, any foreign-focused regulation could be 'cost-free' for domestic producers. One participant confirms that these producers are aware of this legal implication:

> *"These industries are well aware and certainly understand that any legal restrictions that are put in place for imports will apply to their domestic production as well... So these elements of WTO and international law force the US producers to ask themselves very*

carefully 'well, what does that actually mean if we are going to start to require certification of legality or of sustainability? What is the burden that we will face in having to meet that?'" [16].

Within the three jurisdictions that have been most active in responding to traded deforestation – the EU, the US and Australia – there are significant domestic industries that would be affected by any further regulation targeted at the deforestation commodities. As the world's largest producer of soybean, for example, the US cannot regulate imports of Brazilian soybean without imposing some form of requirements on its domestic industry. The US, Australia and some member states of the EU, such as the UK, are also major producers of beef. This dimension of the like products constraint therefore plays a critical role in amplifying the potential resistance to further regulatory responses that comes from domestic audiences, as explored further below.

Dimension 3 – Equality across commodities

A third dimension of the 'like products' constraint requires governments to apply regulation evenly across multiple products that 'are capable of serving the same or similar end-uses' (WTO, 2015). Again, this dimension has significant implications for the deforestation commodities, especially palm oil and soybean.

These implications have already affected at least one proposed consumer government response: the palm oil labelling legislation introduced into the Australian Parliament in 2009, and again in 2011. Because this proposed legislation singled out palm oil, requiring product manufacturers to specifically identify that ingredient within their products, it was most likely incompatible with WTO trade law (Sheargold and Mitchell, 2011; Economics Committee, 2011). This likely breach of WTO law, which would have enabled palm oil producing countries to challenge the law and have it overturned, derives from the proposed law's singling out of palm oil while leaving other vegetable oils unaffected. The proposed palm oil labelling law therefore discriminated between like products in the sense that other vegetable oils – soybean oil, canola oil, sunflower oil, etc. – would not have been subject to the same requirements applied to palm oil. (The proposed French palm oil tax would likely have been judged similarly.) The Malaysian Government, which had already sent an envoy to Canberra to lobby against the proposed law, had international trade law on its side, as recognised by the Committee of the Australian Parliament that scrutinised the law (Economics Committee, 2011).

For oil palm and soybeans, both of which can be used to produce vegetable oils, this dimension of the like products constraint is critical. While none of Australia, the EU and US produces palm

oil, all three produce large quantities of other vegetable oils. To use one example, the US is the world's largest producer of soybean, which means that it can neither single out Brazilian soybean imports for regulation (under the second dimension of the constraint) nor single out palm oil (under the third). In this way, even consumer governments of jurisdictions where no palm oil is produced are still constrained in their capacity to target, through regulation, that commodity. As one expert, when asked whether the US was effectively prevented from acting on palm oil on this basis, responded,

> *"Exactly, that would not pass WTO muster" [16].*

The EU's labelling reforms, which were implemented in late 2014, bypass this constraint by requiring all vegetable oils to be specifically identified on packages. These reforms demonstrate the likely path that consumer governments would need to pursue to label palm oil while protecting themselves from challenges under the 'like products' constraint. In Australia, since the failure of its proposed palm oil labelling law, successive governments have neglected the loophole allowing palm oil to be hidden as simply a 'vegetable oil'. In fact, a review of Australia's labelling system was even more dismissive, relegated environmental concerns to the category of 'consumer values issues', which was then argued to require only limited government involvement (Blewett et al., 2011). This example demonstrates how the like products constraint has prevented at least one, and possibly two (the French tax), consumer government responses from being further considered for implementation.

One critical effect of this third dimension of the constraint is its potential to amplify domestic resistance to regulatory responses to traded deforestation. While the second dimension of the constraint has the effect of making support from domestic producers of the exact *same* commodity especially important, the third dimension makes support from domestic producers of *competing* – or 'like' – commodities important too. And while the coalitions that formed around illegal logging laws prove that domestic support from the former category is possible, support from the latter has proven a more difficult river to bridge. As one UK participant explained,

> *"In the UK, we don't produce palm oil, soy or cacao. We do produce some beef, and the EU is quite a big beef producer. Unquestionably, it [the need to apply regulation equally to domestic producers of like products] is a constraint. There's no way around that really; it just makes it more difficult" [21].*

This is perhaps the most important consequence of the like products constraint for traded deforestation: that in broadening the support needed for a given response across multiple

industries, the constraint induces significant resistance from domestic actors to ostensibly outward-focused regulations, since they know that they will be required to adhere to those same regulations in order for WTO compliance to be achieved. Domestic support, and resistance, is attended to in a section below, its importance affirmed by another expert:

> *"Absolutely, that's this intersection between WTO and international law dimensions and some of these domestic political support dimensions" [16].*

The 'DNA' of the trade community

The above discussion has explored the effect on government regulatory responses posed by the 'letter' of WTO trade law, particularly through the 'like products' constraint. Yet analysing the discussions with participants in this study, a larger barrier to consumer government regulation on traded deforestation emerges in the 'spirit' of the WTO; namely, the consensus on promoting trade liberalisation enshrined and underpinned by that organisation. One participant states it clearly:

> *"I think [the] analysis is correct that for the most part most of the policies we'd like to see put in place are consistent with WTO. [Trade agencies] know that, they understand that. But their objective is not simply to follow international trade law; their objective – part of the DNA of trade agencies – is to explicitly work towards the reduction of trade barriers and reduction of tariffs" [16].*

Another participant agreed, stating,

> *"But it's more that the whole sort of aim and thinking of the trade community has been towards reducing barriers to trade... the whole thrust is towards reducing tariffs" [21].*

These perspectives reveal that the 'trade community' – trade departments, agencies and their representatives – is either not apprised of, not convinced by, or not motivated by the growing empirical literature connecting international trade to specific environmental problems, as detailed in Chapter 2. Specifically with respect to traded deforestation, these perspectives reveal that the challenge of addressing this problem precludes the possibility of enacting regulatory responses that, in the opinions of trade community, might run counter to the overarching objective of further liberalising trade. Where responses to traded deforestation require further regulation of international trade, then, they are anathema to the fundamental *raison d'être* of the WTO. This tension – between what might be necessary to achieve environmental objectives and

what is promoted (or acceptable) to the trade community – has long been recognised. For example, as Humphreys (2003) concludes,

> 'the core interests of the global economy set the parameters within which responses to global environmental degradation are made. Any clauses proposed in environmental law negotiations that interfere with free trade meet with a degree of structural resistance both inside and outside formal multilateral processes...' (p49).

Similarly, Princen (2002), whose exploration of 'distance' served as a platform for discussion in Chapter 3, notes that 'in the contemporary policy environment, [economic] interventions are assumed to have net benefits and those who would promote sustainability goals must prove otherwise' (p130; he goes on to note that reversing this burden of proof might enable more balanced outcomes). For the foreseeable future, responses to traded deforestation must therefore emerge from within an unfavourable paradigm. The experts quoted above continue,

> *"You have to come from that mindset in trade negotiations, and that's quite tricky... I mean if environmental policymakers were in charge of the whole trade agenda you might see different outcomes, but they're not; trade negotiators are, and they think differently, and they have different objectives" [21],*

and,

> *"While erecting a barrier for trade in illegal commodity production is perhaps good policy and perhaps consistent with WTO from a legal standpoint, it is perceived as being inconsistent with international trade regimes in terms of their overall objectives and their tendency towards openness. So that is not a fear of impacting trade flows or trade wars; that is really about how do these folks think about their broad objectives" [16].*

This perspective suggests that, for all the adverse implications of the like products constraint, it is instead the 'spirit' or 'mindset' *behind* international trade law that acts as the major constraint on government regulatory responses to the environmental problems of international trade. For all the criticism the WTO receives, from academics to activists, it remains the case that its mandate and objectives are merely a manifestation of the trade community's valorisation of trade liberalisation. As the expert above continues:

> *"...you quickly move from an agency that is assessing the legal and mission considerations to political considerations" [16].*

This participant elaborates:

> *"...the US Trade Representative, and I suspect the trade ministries in most developed country governments, really have as their objective increasing exports of domestic production wherever they can. They are trying to sell America. So their clients, in a sense, are very nervous about additional regulations, additional trade barriers.*
>
> *"The US Trade Representative would hear very much from the large buyers and also the large sellers, the ADMs, the Cargills, but also the soy association, the beef association ... 'what the hell are you doing? This is the wrong direction' if they were working towards additional criteria for what is acceptable to buy and sell internationally" [16].*

To reiterate these perspectives, then, the most deeply-set constraint facing any proposed, conceivable or existing regulatory response to an environmental problem of international trade can be characterised as less 'its feasibility under international trade law', and more 'its desirability, in light of what is enshrined in that law'. Such a constraint (and its accompanying mindsets) has been referred to as the 'prevailing deep structure', by Young (2011) for example, who writes that 'to be effective, [environmental regimes] must be generally compatible with the essential features of the prevailing deep structure' (p5). At the moment of writing, participants' views assert within this deep structure the presence of a foundational commitment to continued trade liberalisation, institutionalised within the WTO's mandate but also propagated by actors within national trade communities, such as the US Trade Representative. If this commitment to trade liberalisation quashes potential regulatory responses to traded deforestation before they emerge, then the potential of addressing that environmental problem is compromised, with emphasis shifted, or deflected to, the private sector, and perhaps camouflaged in the process. The statements made by governments on where responsibility rests for traded deforestation, canvassed in Chapter 4, suggest just such a deflection.

Yet it also becomes essential to ask: 'How rigid is this prevailing deep structure?'. Are governments inevitably and forever constrained by their cultivated obsession with trade liberalisation? Young (2011) offers some comfort on this front when he notes that,

> 'it is easy to carry this line of thinking [on compatibility with the prevailing deep structure] too far. The deep structure of international society is not static. ... As long as the normative gap is not too great, the development of innovative regimes can play a role in driving the evolution of the deep structure of international society' (p5).

There are in fact possible sources of optimism that the primacy of international trade need not conclusively preclude regulatory responses to environmental problems. One such source relates back to the letter of international trade law; and specifically to the ambiguities that remain over

the permissibility of government regulation on environmental grounds. To cite one recent case that 'deals with the thorny topic of how public morality goals relate to international trade rules', when the EU banned the import of any seal products, the regulation precipitated led to a challenge in the WTO by Canada and Norway (ICTSD, 2014b). Yet in November 2013, a WTO dispute panel ruled that 'the EU's seal regime did restrict international trade', but also found the public morality grounds to be valid (ibid). Similarly, the interpretation of Article XX(b) and (g) – the provisions within the WTO allowing for measures under certain conditions that restrict trade on sustainable development grounds – continues to evolve (Perez, 2006), seemingly in ways favourable to environmentally-focused regulation. The US-Mexican 'tuna-dolphin' case, which ran in two separate versions from 1990 until 2013, when the US implemented reforms (WTO, 2014), and the 'shrimp-turtle' case (again involving the US, with a final ruling in 2001) serve as landmarks for WTO interpretations of these Articles. (They have also been instrumental in shaping governments' understanding of the WTO's interpretations, which has sharpened in some areas while – regrettably – becoming more confused in others; Trujillo, 2012.) Importantly for this discussion, a WTO tribunal's upholding of a US requirement that any imported shrimp be caught using turtle excluder devices leaves a door decidedly open for sustainability criteria to be applied to imports (Brack and Bailey, 2013).

Implicit within these examples is a second source of optimism: the willingness of some jurisdictions – incidentally, those that have also enacted illegal logging legislation – to implement legislation even if it is unknown whether it breaches international trade law. (In fact, it is through such cases within WTO tribunals that trade law has tended to be clarified.) One question to be answered, then, is whether such boldness is again required for consumer governments to test regulatory responses to traded deforestation. Perhaps one modest contribution to this testing will not be too long coming, given the uncertainties surrounding illegal logging laws that one participant believes would be *"good for everyone" [11]* to resolve.

A third source of optimism can be found in the statements of notables at the WTO's annual Public Forum in October, 2014. At the opening plenary, the Director-General of the WTO, Roberto Azevêdo, stated that,

> "The trade agenda of opening markets and promoting an interconnected global economy is not just about dollars and cents... rather this is about the quality of our lives... I want to put the human dimension at the heart of our work, to change the terms of debate, to change this organisation" (ICTSD, 2014c).

Speaking at the same event, the UN Secretary General, Ban Ki-moon, stated that "the question is: 'how can we make trade a better driver of equitable, sustainable development?'" and noted "it is

important to 'promote policy coherence' across areas ranging from environmental sustainability to the trade and financial systems" (ICTSD, 2014c). Chapter 2's canvassing of the literature connecting specific international trades to environmental problems pinpoints some issues where trade can jeopardise sustainable development, yet without answering Ki-moon's larger question of how these trades could or should be approached (a question to which this study can make several contributions). Yet despite the unprecedented offering of these sentiments by such powerful and prominent individuals, seated deep within the prevailing paradigm, it remains to be seen how palatable these organisations are to any answers that might emerge in the negative, i.e. where avoiding or ameliorating environmental problems would require trade to be restricted, or otherwise more carefully controlled. Despite the promising rhetoric, then, the 'DNA' of the trade community remains directly opposed to any such considerations.

Two counter-factuals

Before turning to the constraints that domestic audiences pose for consumer government behaviour, this discussion proposes and explores a counter-factual to help determine the contributions, respectively, of the 'letter' and 'spirit' of international trade law in constraining consumer government responses to traded deforestation. There are two response-types included within this study that, unlike illegal logging laws and labelling legislation, are not subject to the WTO's 'like products' constraint: biofuels frameworks, and public procurement. As neither of these response-types are 'at the border' measures (the first is regulatory but only in determining eligibility for a subsidy; the second is not regulatory), the premise of this exploration is that these response-types can reveal the influence of the like products constraint.

Firstly, what do the biofuels frameworks in the EU (the Renewable Energy Directive, RED) and the US (the latest Renewable Fuels Standard, RFS2) reveal in their handling of palm oil imports? In contrast to timber, trade in biofuels is 'largely driven by state policies and regulations (e.g. blending targets, premiums, sustainability criteria applied to sourcing) which shape its magnitude and dynamics' (Pacheco et al., 2011:3). As Chapter 4's discussion detailed, this outsized role for the state is evidenced by the EU's diversion of domestic vegetable oils towards its biofuels targets, which first stimulated imports of palm oil.

Both major biofuels frameworks apply sustainability criteria to imported biofuels to determine their eligibility for the biofuels subsidy. While these criteria do not affect the actual act of importing, they nonetheless contribute to the demand for those commodities. This difference is explained as follows by one expert:

> *"There are de-facto deforestation-free standards in the US for the Renewable Fuels Standard. The RFS feedstock criteria state that feedstocks only qualify for the blending mandates if they come from land that was not cleared after 2008. So a feedstock grown on recently cleared land is disqualified from counting towards the mandate. It's not a 'we will not import this stuff', it's a 'we will not give you [credit] for this stuff" [16].*

Thus, no restrictions are placed even on biofuels that do not meet the relevant criteria; they simply will not be counted towards mandated blending targets. (In the US this target is expressed as a volume of biofuels, while the EU's target is a percentage of total fuel volume.) In the EU, it is the responsibility of member states to ensure that biofuels counted towards the target percentage meet sustainability criteria, an obligation that – in theory – is passed to domestic actors (EC, 2010). In the US, renewable energy generators, and – where relevant – importers, are responsible for recordkeeping (EPA, 2013b).

Concern over potential impacts on both tropical forests and food prices from stimulating trade in some biofuels, including palm oil, has led the EU to the brink of agreeing on an upper limit for the contribution of agricultural crops towards its target (no more than 6 of the 10 percent total target; Lewis, 2015). Prior to the implementation of the RED in 2009, the Dutch Government had taken a less forgiving approach, singling out palm oil for exclusion (temporarily) from its national green energy subsidy scheme 'because of the uncertainties of certification and sustainable production' (Sheil et al., 2009:47). These actions demonstrate the willingness of consumer governments to act to prevent undesired outcomes, including where that necessitates singling out one particular commodity (as in the Dutch example). These actions would not be possible under the WTO's framework; it would not be possible to restrict the volume a given commodity that could be imported, nor would it be possible to single out one commodity for exclusion. As a result, these actions are indicative of possible consumer governments responses that are currently prevented from occurring under the WTO.

The limitations that have been placed on biofuels frameworks, however, are in effect restrictions on the promotion of trade in relevant commodities. In theory, then, biofuels' role in promoting trade could mitigate against producer government arguments about sovereignty, development and trade flows made by producer countries. In practice, however, the need to set appropriate sustainability criteria – in some cases for each crop – has simply created new fora where these robust exchanges can occur. For example, the RFS2's pending determination on the sustainability criteria of palm oil led one US policymaker to demur from participation in this study on the grounds that the subject was *"just too sensitive" [6].* (The determination remains pending in early 2015.)

One major difference between these two biofuels frameworks is their different approaches to recognising sustainability standards. While both jurisdictions have established baseline sustainability criteria, which include a requirement to reduce greenhouse gases by set levels, the EU has also explicitly encouraged 'industry, governments and NGOs to set up 'voluntary schemes' to certify biofuel sustainability' (Guariguata et al., 2011:5). It is from these origins that the EU collaborated with the RSPO to create the 'RSPO-RED', a version of the RSPO standard for palm oil that assures compatibility with the RED framework. In contrast, the US' RFS2 programme has not only avoided collaborating with sustainability schemes such as the RSPO; it has also avoided directly recognising – or otherwise relating its framework to – them. An expert confirmed this US Government position, saying that,

> *"Absolutely [this has come up]. The US Government explicitly say 'we are not in the business of picking winners or losers, we will not set forth any requirement that is tied to a privately determined certification'" [16].*

However, this is not to say that the Environmental Protection Agency (EPA), the agency behind the development and implementation of the RFS, is neglecting to engage with relevant schemes entirely, as a representative of the RSPO revealed:

> *"Yes, we are heavily involved in [the EPA's development of the RFS2]. An EPA delegation came to Malaysia last year, and we briefed them..." [8]*

This US reluctance to recognise sustainability schemes not only marks a difference with the EU's framework but also the Australian illegal logging laws. As such, it is not an inherent feature of either logging laws or biofuels frameworks that links are not established with sustainability schemes; in each case an exception exists. These exceptions uphold the argument made in relation to the first dimension of the like products constraint, that links to sustainability schemes may indeed be possible under international trade law. Rather, this difference between the RED and the RFS approaches to schemes suggests a simple difference in orientation towards that possibility on the part of their backing governments. As Chapter 5 explored, the decision whether or not to recognise such schemes is also faced by – and creates difficulties for – companies. Yet for governments, as representatives of the public interest within their jurisdictions, there are perhaps additional considerations in weighing up the merits of recognising or not. As one participant expressed (in relation to timber in public procurement):

> *"[Why not recognise?] I think it's usually the fight between lawyers and practitioners. The environment ministries would be quite pleased if they didn't have to check companies*

working with certificates, but the lawyers would consider that too big a liability, because you're giving a blessing to entities that are not public" [4].

The difference between the RED and RFS approaches should not obscure one commonality between the two frameworks: that governments decide their own sustainability criteria *before* determining compatibility with schemes (similar to Nestlé's Responsible Sourcing Guidelines). These criteria are in fact evidence that consumer governments may be open to pursuing further, and stronger, regulatory responses for the non-timber commodities implicated in deforestation, were it not for the constraints inherent within international trade law.

A second response-type to provide a viable counter-factual, public procurement policies, also involves governments setting its own sustainability criteria, although exceptions exist, with Germany's timber policy simply requires FSC or PEFC, without an underlying set of criteria, and the UK's palm oil policy is explicitly 'based on the certification scheme of the RSPO' (DEFRA, 2012:1).

The value of public procurement policies as a counter-factual is their capacity to reveal what responses consumer governments might consider enacting in the absence of constraints within international trade law. Yet the 'timber bias' of consumer governments evident in illegal logging laws is borne out equally by these policies; of the four major traded deforestation commodities, 26 consumer governments have implemented public procurement policies (of some type) for timber (Brack, 2014), while only the UK (for palm oil) has followed suit for any other commodity. This disappoints one participant:

"Out of 27 [EU] countries there are maybe only 8 public procurement policies [for timber]. Another problem is that there are only a couple of countries that are implementing them, or ensuring they're enforced. The UK is [one of those]..." [17].

Similar to the US' illegal logging laws after significant reductions in its enforcement funding, procurement policies are also only as good as their implementation. These costs can be very minimal: the UK's Central Point for Expertise on Timber (CPET), which is responsible for providing advice to domestic importers and businesses on the UK's public procurement policy, runs a budget in the vicinity of half a million pounds per year. Yet to date only the UK has established an entity with this role.

In theory, too, public procurement policies provide a greater flexibility to opt for sustainability – rather than legality – as a reference point, as one participant notes:

> *"Procurement is always easier. You can set higher standards for your own government buying than for the country as a whole" [21].*

This chapter earlier noted that even though a reference point of sustainability appears to be possible under international trade law, there are nonetheless fewer complications with legality. Despite that greater flexibility though, only 5 governments (the UK, the Netherlands, Germany, Luxembourg and Denmark) currently require sustainable timber for their procurement (Brack, 2014). Given this record, it seems unavoidable that international law can claim only minimal responsibility for orienting consumer governments towards illegal, rather than unsustainable, logging laws.

Perhaps most importantly for the current context, consumer governments have shown a willingness to both ignore and to breach the WTO's Guidelines on Procurement Agreement (GPA), which the EU (and therefore its members) is a signatory to. At the lesser end of the infringement scale, allegations abound that a German procurement policy does not actually exist and that only FSC or PEFC-certified timber will be accepted. If true, Germany's breach is merely that it does not provide an alternative route (i.e. outside of a scheme) to demonstrate sustainability. Substantially bolder is the Norwegian procurement policy, which explicitly bans tropical timber from being used for public projects. The fact that neither Norway nor any tropical timber-exporting country are signatories to the GPA is perhaps the only reason this more brazen approach survives uncontested. Yet clearly this policy runs counter to the principles enshrined not just within the GPA but also the broader WTO, signifying Norway's willingness to cut against the grain of international trade law (in both letter and spirit) in order to pursue its objectives. These objectives almost certainly include the protection of the domestic timber industry, though a concern for tropical deforestation is also highly likely (with this same combination underpinning illegal logging laws).

Using biofuels frameworks and public procurement as counter-factual response-types, this discussion has demonstrated that the 'timber bias' and 'legality bias' of consumer government regulatory responses (i.e. illegal logging laws) largely reflect the biases already inherent in public procurement. As such these logging laws cannot be regarded as 'lowering the bar' so much as maintaining it. In contrast, the willingness of biofuels frameworks to use sustainability criteria to determine eligibility, and in the EU's case to limit the total contribution to the target of first generation feedstocks (which include palm oil) suggest that stronger consumer government responses to non-timber commodities may be being constrained by international trade law.

Constraints from domestic audiences

Regulatory responses to traded deforestation from consumer governments face sensitivities and constraints not just from foreign audiences and international trade law, as the arguments above reveal, but also – and crucially – from domestic audiences. Domestic businesses and industries have articulated concerns about at least two aspects of such regulation: firstly, the capacity for trade flows to be affected, and secondly, the regulatory burden that governments might impose on them. These will be discussed sequentially.

Similar to the concerns of producer country governments, as canvassed earlier in this chapter, domestic actors within the private sector have also voiced concerns over the capacity of responses to traded deforestation to adversely affect trade flows. One expression of these concerns can be found in the public submissions on the draft Australian illegal logging laws, with – for example – the submission from the Australian Timber Importers Federation asserting that,

> 'The Australian economy increasingly needs to be able to freely trade and import timber products to assist economic growth. The proposed legislation needs to complement, rather than restrict this objective... Imported timber products are growing in significance and will be central to the performance of the Australian building and construction industries in the future' (ATIF, 2012:1-2).

These concerns over the effect of the Australian illegal logging laws clearly dovetail with those of producer countries who perceive a threat to their industries' exports. As a result, consumer governments are effectively being called on by both domestic and foreign audiences, firstly, to justify the need for any regulation, and secondly, to convince them of the regulation's ability to effectively quarantine an intended target (illegal timber, or unsustainable palm oil) while otherwise affecting trade flows to the minimum possible extent. Australian policymakers involved in designing its illegal logging laws were highly conscious of the need to address illegal flows of timber without *"adversely affecting the ability [for domestic actors] to import" [11].* (This awareness was also reflected in the semantics of that legislation as 'promoting trade in legal products', rather than restricting trade in illegal products; DAFF, 2014a.) As one participant concludes,

> *"[As for] public opinion, and lobbying opinion... It's unlikely that governments would [interfere in trade flows] in total disregard of public opinion. I think public opinion on tropical timber was reasonably strong and you are able to adapt, to source imports that respect sustainability on tropical timber" [20].*

Nonetheless, some domestic actors within Australia would no doubt have empathised with the Russian delegation's question – 'Why are you doing this?' – following the Australian delegation's presentation in the APEC Illegal Logging Workshop of its illegal logging laws (personal notes, 2013).

The trade community's predisposition towards further liberalisation – the spirit behind international trade law – clearly enjoys domestic support, not least from actors within the private sector, including importers, traders, and wholesalers of timber. While as a sensitivity it is not new to this discussion, then, the refrain from domestic actors creates added pressure on consumer country governments in navigating the central tension identified here; namely, in restricting problematic trades while simultaneously pursuing the deeply-engrained objectives of expanding overall trade and associated domestic economic activity. This is empirical support for the tension first exposed in Chapter 3, which identified responses' subject of governance as one of multiple alternatives, including tending to the continuation of multiple processes of globalisation.

The second, and more pronounced, aspect of regulatory responses to traded deforestation that concerns domestic actors is the burden that regulations impose on them. Under any of the illegal logging laws, for example, the due diligence requirements are borne by timber importers (and subsequent traders, where specified). A similar burden falls to any suppliers of timber to projects where national governments have enacted procurement policies. Indeed, this is true as a general rule: when consumer governments implement regulatory or policy responses to traded deforestation, the effort required to adhere to those requirements – tracing products and obtaining necessary documents – falls to the private sector actors involved. (The government usually retains an auditing and enforcement role, especially under illegal logging laws.) Concern over this 'regulatory burden' is a major factor in cases of resistance to possible future consumer government responses, as one participant confirms:

> *"The other element to whether interests really are nationalist and protectionist or internationalist is the question of regulatory burden" [16].*

Importantly, resistance to regulatory burden is not uniform within the private sector. A clear dividing line is apparent between companies that have already designed policies targeting the deforestation commodities within their own supply chains and those that haven't. The former category actively anticipate and support regulation on the basis that it can 'level the playing field' with their competitors. As Mark Gomm from the Australian timber retailer, Bunnings, noted,

> *"The role we've played as an early-adopter...has certainly put us at a competitive disadvantage in the very early stages. When you're the only one, you're absorbing costs and it's not really a level playing field. That is the role that legislation can play in economies... it really helps level the playing field and remove some of the low-end, questionable product"* (Gomm, 2013).

This sentiment was also observable, for example, following the UK Government's Statement on palm oil (DEFRA, 2012a), when some major retailers – as well as the RSPO – reacted with disappointment that the ambitions contained in the Statement fell short of what they had already committed to (Scott-Thomas, 2012). (The UK Statement also fell short of matching the Dutch and Belgian palm oil industries' commitments to eliminate uncertified versions of the crop by 2015.)

The presence of companies supporting regulatory responses to illegal logging has undoubtedly been conducive to the implementation of those responses in three jurisdictions. Recall that, in addition to the desired levelling of the playing field from leading companies, illegal logging laws also drew on significant support from domestic timber industries that were being undercut by imported, illegal timber. One US-based expert participating in this study confirms:

> *"The forest products industry, the coalition that brought about the Lacey Amendments in 2008 was a somewhat unique coalition, a strange bedfellows group. There certainly were protectionist messages that brought along US industry..." [16].*

An obvious question emerges, then, as to whether similar support could emerge to support responses to the other commodities implicated in deforestation? The expert above was highly sceptical of that possibility, pointing to the fact that US soy and beef industries are not being undercut by foreign competition:

> *"[These industries] are very difficult to approach on this topic [legal requirements for non-timber deforestation commodities]... So there is a dimension of them using their political power to avoid those kinds of issues and to prefer competing based on other dimensions, you know - 'How productive is US soy or beef compared to Brazilian soy, how cheap and well developed is our transportation structure?' ...so I think they would prefer to compete on other dimensions" [16].*

A further obstacle to garnering domestic support for these commodities lies in the political orientation of these industries, as the expert concludes:

> *"These industries [US soy and beef], both on the basis of real and perceived slights, feel like they are overregulated already and do not wish to see any additional burdens placed on them... Certainly... the industries are weighted towards the conservative end of the political spectrum. [They are] relatively anti-regulation, and as you know the US is in the middle of a 5-10 year spasm of anti-regulatory fervour" [16].*

The like products constraint dictates that any regulation consumer governments imposed on imports of soy and beef would also need to be met by domestic producers of those commodities. Within the US, if not more broadly within Western jurisdictions, this participant has revealed a preference among these industries to compete on dimensions other than legality or environmental record, as well as a pervasive antipathy to regulation. These characteristics mark a critical difference between the timber and non-timber industries in these jurisdictions, since for the former widespread illegal logging had enabled foreign timber to gain a competitive advantage. As a direct result, there was more support for legality-focused regulation as became manifest within illegal logging laws.

The like products constraint also has the implication that competing vegetable oils cannot be partitioned off from one another in any regulatory response. This is highly pertinent given that the US, EU and Australia all produce substantial volumes of vegetable oils, which led one UK participant to be sceptical of the possibility of regulatory responses emerging to palm oil, for example:

> *"Yes, there would be domestic resistance [to action on palm oil, given domestic production of other vegetable oils]. Again, that's a reason why [these commodities are] slightly more complicated than timber. There's already some kind of framework for [assessing sustainability] in the context of biofuels in EU, but that's for a quite specific part of the market..." [21].*

One additional nuance to consider in this discussion is the internationalisation of some of the industries relevant to the deforestation commodities. Recalling Chapter 3's discussion of the processes of globalisation that have resulted in post-Fordist models of production and ownership, it becomes highly relevant that the industries competing with the deforestation commodities may not be wholly, or even mostly, domestically-owned. As a US-based expert explains:

> *"[W]ith the soy industry in particular, the need to ensure domestic support is complicated by the fact that the power centres are not solely domestic. So if you look at Cargill and ADM and you ask what percentage of their trade volume is originating in the US, that*

percentage is not that high, so instead of being a potential ally because they're gonna level the playing field for their American production, they actually see this as a potential threat, because you're gonna level the playing field against their Brazilian production. So in that sense ... the internationalisation of some of these industries ... [affects] how these industries communicate to policymakers" [16; emphasis added].

These ownership dynamics undermine the level of support that consumer governments can bank on, since 'domestic' industries for many deforestation commodities own shares of industries *within* the tropical countries where environmental impacts are being incurred. Consumer governments therefore face significant constraints in attempting to leverage support from domestic audiences (some of whom have decidedly international outlooks on regulation). Yet the root of this constraint, as already noted, is that while regulation is the strongest response that consumer governments could enact, it inevitably imposes burdens on domestic actors. The conflict between concern over responding to traded deforestation and not wanting to impose these burdens can lead to a stalemate within consumer governments. The US Government's ill-defined role in the Tropical Forest Alliance provides a case study in the consequences of such a stalemate:

"[The US Government] want to do something voluntary, but they don't even know what to do. I think that's really the [problem]... That's why you get the TFA forming and then doing nothing. Yeah, they want to do something voluntary, but no one has any idea what that actually means... There's definitely a reluctance [by the US, in the TFA or perhaps more broadly] to do anything that's too solid a commitment..." [18].

Another participant agrees that,

"...without the companies putting explicit policy recommendations on the table – which would go against their own self-interest, you know, the companies are not going to go out and say 'regulate me', but they came to the government and said 'we need help', and the governments have not yet been willing to say, ok we're happy to help and what we can do is regulate... So you've got this game where no one's actually willing ... to put what has to be done on the table" [16].

These consequences – stalemate, impasse, inaction – are not confined to the TFA but are also perceivable in the general intention of consumer governments to 'support', or 'cheerlead', the private sector, as previous participants have termed it.

How immutable is domestic resistance to further regulatory responses to traded deforestation? Lessons from existing responses – chiefly the illegal logging laws – provide some hints of how

governments were in some cases able to pacify, or deflect, this resistance. As one example, the Lacey Act was generally perceived as inadequate in the guidance it provided for domestic importers and traders of relevant timber imports, as a participant notes:

> *"With the Lacey Act it's all up to the business to figure out how to get it here legally. It's very much an attitude of 'we [the US Government] don't care, we're just gonna make sure that you're following the rule of law'" [18].*

The Lacey Act was also perceived to suffer from a lack of flexibility in the options it provided for companies looking to demonstrate legality. Yet each of these shortcomings have been remedied in other governments' responses, showing the benefits of learning from the experiences of others (which is not limited to governments, of course, as Chapter 7 will highlight). The UK Government-funded CPET, as already mentioned, deftly circumvents the lack of guidance for businesses, and for a remarkably low budget has been able to:

> *"ensure that there is somewhere [for UK businesses] to go to get all your answers and also... run a lot of training sessions, so [it's] trained all the major contractors and suppliers across all sorts of sectors, so there's no excuse for not complying because you've only got to attend one of these sessions and you'll know what to do. CPET is a general support helpline" [17].*

Similarly, the Australian illegal logging laws, which had the distinct advantage of being designed and implement after the Lacey Act and the EU TR, create a clear and easy route to providing importers with flexibility simply by recognising both FSC- and PEFC-certified timber products. According to one participant from an NGO:

> *"[The Australian] illegal logging [regulation] requires business to undertake due diligence to minimise the risk.... Generally speaking, the government is looking to be reasonably flexible or non-prescriptive in what those due diligence systems look like, other than to put in some broad guidelines" [5].*

In light of the sensitivities that consumer governments face with regards foreign audiences, too, the recognition of the PEFC in particular was a masterstroke within the Australian laws. Many timber producing countries are now developing their own timber legality systems (sometimes referred to as 'schemes'). Once these systems are mature, the PEFC will assess them for their acceptance within its umbrella scheme, the importance of which is that the Australian Government – unlike the EU under FLEGT – avoids needing to make its own determinations on these schemes on a case by case basis. (According to one Australian policymaker, timber producing countries have already been lobbying for explicit recognition for their systems under

the Australian logging laws *[11]*.) Were the Australian Government to assess other countries' frameworks and in some cases need to reject these frameworks, the lines of argument purveyed by producer countries – explored earlier in this chapter – could re-explode into prominence. Thus it seems a wise strategic move for Australia to avoid being forced into such a position by – effectively – outsourcing the task of assessment and recognition to the PEFC.

Conclusion

Consumer governments have a wider range of possible responses with which to respond to traded deforestation than any other actor beyond the tropics. They are also the only such actor capable of enacting regulatory responses to this problem, a capacity to date reflected in the illegal logging laws of three jurisdictions. Yet consumer governments also face significant sensitivities and constraints in gathering support for their responses. Inconsistent outcomes – across commodities, and across governments – reflect an unresolved willingness and ability to confront these sensitivities and navigate these constraints, where it is indeed possible to do so. Arguably, then, the largest piece of the puzzle of responses to traded deforestation has yet to be put firmly in place.

This chapter explored three categories of sensitivities and constraints facing consumer governments: in confronting the often-vociferous arguments of producer country governments, in abiding by the letter and spirit of international trade law as governed by the WTO, and in garnering domestic support for regulatory responses. Of these three categories of constraint, the body of trade law overseen by the WTO has long attracted the greatest ire from environmentalists, yet the perspectives of participants clearly show that a more nuanced approach is essential, for two reasons. Firstly, the objective of further trade liberalisation, and its widespread support from consumer as well as producer countries, is the underlying reason why trade law has taken its present shape and is therefore the constraint most embedded in societies' 'deep structure'. Secondly, for the traded deforestation commodities especially, the significance of trade law stems more from its ramifications for domestic support for regulatory responses than for its direct restriction on regulatory responses. With recent disputes within WTO tribunals suggesting that much stronger regulatory responses on deforestation commodity imports are legally permissible, the primary question remains whether they are politically possible, and desirable.

A lack of domestic support remains the crucial constraint on consumer government regulatory responses, largely explaining why illegal logging laws have been implemented and why other

possibilities – unsustainable logging laws, and illegal palm oil laws, for example – have not. The internationalised ownership structure of soy and beef industries within the US (overlapping with that in Brazil) serves as a reminder that the retrofitting of responses to existing international trade patterns occurs within a context already shaped by the processes of globalisation. These constraints combine to make regulatory responses on non-timber deforestation commodities politically challenging, to say the least, for the foreseeable future.

Yet consumer governments have been consistent in their insistence that tropical deforestation be halted. As one participant conveyed in this chapter, they have even been willing to propose a statement in the UNFCCC in which consumer countries would accept significant responsibility for traded deforestation. With that approach blocked by producer governments, and other approaches hemmed in and shaped by international trade law, more radical possibilities for responding to consumer countries' connections to traded deforestation could be considered. One such possibility would be to further test – or more brazenly, ignore – the constraints imposed by international trade law, freeing consumer governments to apply discriminatory regulation to specific commodities known to be driving deforestation, or specific countries where it occurs. The public intellectual Naomi Klein provides indirect support for such a re-imagining of the currently-established relationship between trade and environmental problems, when she writes (with respect to climate change and capitalism),

> 'So what Anderson and Bows are really saying is that there is still time to avoid catastrophic warming [*further tropical deforestation*], but not within the rules of capitalism [*global trade*] as they are currently constructed. Which may be the best argument we have ever had for changing those rules' (Klein, 2013; *inserts added*).

Suffice to say that one obvious constraint on any such institutional reform is the aforementioned commitment, across governments at both ends of supply chains, to furthering the trade liberalisation agenda, even as the body of evidence grows challenging the benefit of this blanket goal. One counter-example stands out strongly in this context: Norway's disregard of the principles of international trade in its ban on the use of tropical timber for public procurement projects. Norway's actions, flagrant as they must appear in the midst of others' countervailing aspirations, are in fact a reminder that countries deliberate and actively decide to sign up to trade agreements and organisations, such as the WTO. To the extent that these decisions limit governments' potential to respond to problems, governments abrogate that potential. Conversely, should governments decide that certain problems necessitate the reacquisition of that potential, it can be rehabilitated.

This chapter will explore and examine the possibilities that responses might achieve an influence beyond what their coverage, and the limitations already revealed, would suggest. Recent chapters in this study have identified and analysed the limitations that emerge from the nature (Chapter 4) and behaviour of responses (and actors) within the private sector and civil society (Chapter 5), as well as from government (Chapter 6). Yet even within these chapters, several reminders have nonetheless appeared that responses may yet be capable of overcoming, or circumventing, some of these limitations. This chapter therefore seeks to provide a necessary balance to previous chapters' explicit – and warranted – focus on responses' limitations.

Support for a focus on influence is also made most explicitly by Bernstein and Cashore (2012), who advocate – and develop a broad framework to support – a 'shift from 'effectiveness' to 'influence'' (p587). Other authors have identified a similar need, whether implicitly or explicitly, with Steering Committee's (2012) Assessment of certification identifying several 'mechanisms of interaction and indirect impacts' (p83), substantially building on Auld et al.'s (2008) initial foray into certification's 'unintended', 'spillover' and 'long-term and slow-moving' effects. This chapter will further find that many of the pathways of influence already identified for certification can apply equally to other downstream responses.

Certainly, this study's collective approach to responses for traded deforestation allows for exploration of the possibility that *interactions* between responses could create greater influence, which literatures have identified as crucial (eg. Bernstein and Cashore, 2012; Newton et al., 2013; Lambin et al., 2014). Although this study has already generated insights into how responses might behave in ways that are mutually inhibitive (in Chapters 4 and 5 especially), the premise of this chapter acknowledges and seeks to build on other authors' conclusions on the potential for 'synergistic' interactions (Bernstein and Cashore, 2012:589) or 'complementarity' (Lambin et al., 2014:135) between responses, including 'synergies between [response] goals' (Newton et al., 2013:1768). This chapter's pursuit of pathways of influence also extends beyond interactions between responses, however, recognising specifically that such influence can also emerge in the absence of interaction between responses.

The chapter will complete three tasks. Firstly, it expands on Chapter 3's discussion of displacement and Chapter 4's discussion of coverage with analysis of participants' perspectives on these phenomena. Secondly, it identifies and examines a range of active and passive pathways through which responses may 'over-achieve' and generate greater influence than their coverage would suggest. In scrutinising these pathways, several limitations on them are

also detected. Finally, this chapter will fit these pathways into three separate, though not mutually-exclusive, 'theories of change' discerned through discussion with participants. These theories of change are analysed in light of insights from previous chapters, both conceptual and empirical, to determine whether and how responses might overcome limits to coverage and thereby broadly transform the industries connected to tropical deforestation.

1. Opening perspectives

Coverage (and China's clout)

Chapter 4 identified coverage as one crucial, and inescapable, limitation on the direct contribution that current responses from beyond the tropics can make to slowing deforestation. That chapter also revealed the central importance of China as the primary export destination for timber and soybean, and as a major importer of palm oil. China's prominence has clearly not gone unnoticed; both participants in this study and practitioners in public fora have expressed concern that inaction from China and other jurisdictions might undermine the contribution of existing responses to slowing deforestation. As one example, at the Cross-Roundtable discussion at the RSPO's 2012 meeting, the Executive Director of the RTRS, Agustín Mascotena, noted that,

> *"[G]rowers are asking why they should go for certified sustainable [production practices] if China is buying anyway"* (Mascotena, 2012).

In relation to timber, the literature and participants are in agreement. As Gulbrandsen (2004) writes, 'forest holdings in tropical countries have little trouble selling uncertified and even illegally-sourced timber on the world market' (p94). An FSC participant agrees, noting,

> *"We have to be optimistic about China, otherwise the future will look quite grey" [4].*

Similarly for palm oil, a representative of the WWF noted that,

> *"[Markets such as China are] a key focus..." [5],*

while an RSPO representative concluded that,

> *"If we want to push for further uptake, we cannot just look at Europe. We have to look at other countries as well" [8].*

Finally, on the RTRS' behalf, Mascotena concluded that,

> *"China is the world's main soybean importer... if a change in soya is needed, it must be focused on China"* (Mascotena, 2012).

It seems hard, then, to overstate the importance of China for continued growth in coverage for many of the major sustainability schemes, including the RTRS, the FSC and the RSPO. In a debate hosted by Mongabay, the online rainforest news hub, the Executive-Director of the RSPO, Darrel Webber, was asked whether there was any demand for certified palm oil in the emerging markets of China, Pakistan, India, Indonesia (etc.), to which he responded,

> "I have heard this a lot of times and I get a little bit worried when people come with this question because I see where it comes from: China and India are so large so why even bother? But we have to take it step by step" (Sustainable Palm Oil, 2013).

Webber's co-interviewee from Greenpeace, Bustar Maitar, concurred:

> "I agree with Darrel, we should not use China and India as a reason for companies not to move... We should not use China and India as an excuse" (ibid.).

These quotes reveal, most obviously, that companies have sought to do exactly that – to use China as an excuse. But other actors have had a different reaction to the challenge of slowing tropical deforestation without action from China. These actors – in particular major manufacturers and retailers – have instead chosen to frame this reality as a challenge, specifically of needing to achieve an influence beyond their own supply chains. Walmart's sourcing arm for palm oil, ASDA, for example, has expressed its intention to 'expand our reach further than our own usage' (Walmart, 2013:67), while a Unilever participant in this study revealed comparable aspirations as follows:

> *"There is quite a strong commitment internally [within Unilever] to change the way we buy [and] essentially try to change the industry... That's our ambition, to try to change the way the industry works. It's a big change. If we're on our own asking for just 3 per cent to be changed, that [industry change] is never going to happen" [3].*

To critically examine the intentions of both these actors, this chapter presents and explores two interrelated sets of ideas. The first is a set of pathways through which actors might 'expand their reach' beyond their own usage, or in this study's vernacular, to achieve influence beyond coverage. The second is three alternate theories of change that provide a frame for understanding how the larger objective of 'changing the way the industry works' might occur. Before turning sequentially to those sets of ideas, however, participants' perspectives on displacement are briefly presented.

This chapter's focus on how responses could achieve influence beyond coverage has a flip-side – displacement – which this study has already explored in chapters 3 and 4. This section demonstrates an awareness by multiple participants of the danger that, instead of leading to changes in production practices, responses could simply displace problematic versions of commodities to other destinations and markets. A Unilever representative signified an awareness of this possibility with reference to a government response to illegal timber deployed in the 1980s:

> *"The EU's tropical timber ban in the 1980s 'kind of backfired'... the timber just went elsewhere. That was a huge policy mistake" [3].*

In light of this example, this participant approves of how consumer governments are currently *"supporting sustainability as opposed to being completely against or blocking [a commodity]" [3],* although France's failed attempt to levy a palm oil tax was cited as *"unworkable... because when you've got a government coming in with rhetoric like that, it makes it quite difficult for us to push for sustainability" [3].*

Within New Zealand, one of the few Western governments that has yet to implement illegal logging laws, the danger of displacement is perceived more tangibly. As one New Zealand policymaker noted,

> *"[Importers'] main concern, as it has been articulated to me, is that exporters of wood of dubious legal status will see New Zealand as an alternative destination once the Australian market is regulated. This could either be as a domestic market in itself, or for onwards shipping to Australia and other markets" [13].*

Clearly, the timber imports that New Zealand intends to ship onward to Australia will need to comply with that jurisdiction's import-focused laws. The due diligence that these laws require of Australian timber importers, therefore, is effectively 'passed on' to prior New Zealand importers, placing them into a situation similar to Chinese and Vietnamese timber importers whose products are destined for the EU or US. As one pathway of influence introduced below – influencing suppliers – describes, the Australian laws can have a disproportionate influence if NZ timber importers consequently decide to *only* import timber that complies with these laws. Similarly, this policymaker hints at another pathway of influence – collaboration – that could be exercised if New Zealand finds it's the destination for displaced illegal timber:

> *"At the moment the [NZ] Government's illegal logging policy is to encourage voluntary approaches by industry... [but] there is an action point to look at the possibility of linking with the Australian scheme once it is established" [13].*

Displacement could potentially emerge at the landscape level too, as Chapter 4 noted, if certification encourages one set of practices for timber or agricultural commodities within a particular area while displacing problematic practices – deforestation, perhaps – beyond that area. One FSC participant responded to this possibility by saying, *"I haven't seen any evidence of that" [1]*, while also admitting, however, that it was hard to preclude, noting that *"the FSC is a positive tool, but it is just a tool" [1].*

At least one example from current responses has been designed to directly mitigate the danger of displacement: the EU's FLEGT program. Through its Voluntary Partnership Agreements, FLEGT supports governance reform within producer country forestry sectors in order to create conducive conditions for legal exports to the EU, while also mandating the legality of those imports through its illegal logging laws. Further examples of pathways of influence that guard against displacement are canvassed and examined in the following section, to which this chapter now turns.

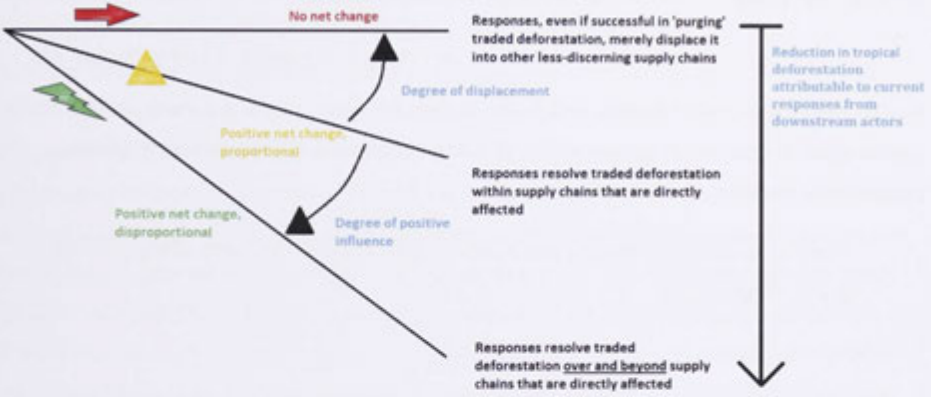
2. Pathways of influence

This major section of this chapter applies an empirical lens – through the introduction and analysis of participants' perspectives – to the limitation of coverage. Specifically, it discerns and explores the potential of pathways that participants argue – and hope – might overcome this limitation. Pathways are divided into the two categories of 'active' and 'passive', a distinction that is roughly analogous to the separation between 'intended' and Auld et al.'s (2008) 'unintended' consequences (p200). This distinction also draws on Bernstein and Cashore's (2012) comment, in the course of presenting their own framework for analysing influence, that 'the starting point for an examination of such influences is a focus first on purposeful efforts of institutions and actors... to steer policy and behaviour' (p586).

As the section will demonstrate, both active and passive pathways suffer from shortcomings, with the former often subject to limitations of their own, while the greater difficulty for the latter remains their largely – and frustratingly – speculative nature, given difficulties in both observation and attribution. Further research may be able to elucidate, possibly at much more refined scales, the potency of these pathways. Figure 7.1 illustrates the potential contribution of current responses, showing the critical dependence on whether that contribution is

proportional to their coverage, is displaced (and so less than their coverage), or realises an influence beyond that coverage.

Figure 7.1 Illustrative potential for reductions in tropical deforestation from current responses.



Active pathways

The three active pathways of leadership, convening and collaboration are presented here as conceptually distinct, yet in reality they rest along a spectrum. For instance, it is possible for a company, government or scheme to demonstrate leadership by setting a strong example and letting others follow; equally, leadership can be exercised by imploring others to 'pull their weight' within collaborative groupings of peers, an act that may appear from the outside as straightforward collaboration. In addition, peer pressure, which is categorised as a passive pathway and therefore explored later, may nonetheless be implicit within these definitions of leadership (equally it also may not). In short, while there is a clear distinction between what actors intend to flow from their behaviour (and responses) and what is unintended but may nonetheless occur, within these two categories the pathways are less distinct. This should be borne in mind as the pathways below are presented.

Actors such as the major retailers Walmart and Unilever are accustomed to their market power enabling them to set the terms of production within given industries. For these actors, then, it was an unwelcome realisation to understand that their coverage of the deforestation commodities was insufficient to decisively affect the related industries. In relation to palm oil, for instance, a Walmart representative explained at the 2012 RSPO annual meeting that,

> *"Usually because we are such a large player we can drive change in supply chains through our procurement policies, but it became clear with palm oil that we couldn't do that because our purchasing is too small by ourselves"* (Walker-Palin, 2012).

As the single largest purchaser of palm oil globally, Unilever might seem well positioned to realise its professed commitment to change the palm oil industry in its entirety. One participant from Unilever confirmed this as the company's objective, stating,

> *"That's our ambition, to try to change the way the industry works. It's a big change" [3].*

Yet the fragmentation of the consumption end of palm oil supply chains means that, even for the single largest purchaser, this objective is difficult to square with the percentage of global production it purchases,

> *"If we're on our own asking for just 3 percent to be changed, [industry change] is never going to happen" [3].*

Leadership

Leadership is one pathway that participants, especially from major retailers, identify as promising for achieving influence beyond their direct coverage of their supply chains. As recently noted, leadership can be demonstrated in either an 'out in front' form, where one actor inspires its peers to follow suit, or a 'rallying the troops' form, where the focus is determinedly on motivating other actors (usually peers). A participant from IKEA, the major timber retailer, provides an example of the first form of leadership, saying,

> *"On due diligence systems, IKEA is still number one... We do this... to give an example and to lead [our] peers" [14].*

In contrast, the Unilever participant quoted earlier elaborates that company's approach with reference to the second form of leadership,

> *"So what we do very strongly is having discussions and going into forums [such as the RSPO] and talking about the need for change, giving examples of what we're doing and trying to get leverage that way..." [3].*

Forums such as the RSPO, and the CGF, which Unilever is also active within, are discussed under the collaboration pathway below. This latter quote captures the confluence of three pathways discussed here, including leadership, collaboration but also – and more subtly – peer pressure, suggesting how difficult they can be to isolate for analysis. There is, however, an important reason for doing so: many pathways are subject to limitations of their own. That is, despite their

promise for overcoming the limitation of coverage, and participants' faith in their ability to do so, this chapter finds that no pathways – especially not active ones – are panaceas for that limitation. The leadership pathway bears out this point.

One precondition for any actor intending to lead either its peers or any other actors is that it has its own house in order. The US Government concludes as much in its strategy to address illegal wildlife trafficking, noting that 'the US must curtail its own role in the illegal trade in wildlife and must lead in addressing this issue on the global stage' (Obama, 2014:12). The relationship between these two statements, framed as an a-casual 'and', could more accurately have been 'in order to', reflecting the US' role as a significant destination country for trafficked wildlife. This precondition for leadership has also had a bearing on US Government efforts to respond to traded deforestation. As Chapter 6 showed, one constraint on the US Government's ability to adopt a 'no net deforestation' objective within the Tropical Forest Alliance stems from the fact that it does not currently comply with – or wish to be held to – that objective within its own jurisdiction. This precondition is even more problematic for Australia, which nonetheless hosted the Asia-Pacific Rainforest Summit in November 2014 to 'look at practical tools and solutions to assist developing countries in the region to better manage their forests and land-use change' (Department of the Environment, 2014). As Chapter 6 elaborated, Australia's recent record on land clearing led the Economist to rank the country alongside Brazil and Indonesia for forest loss between 2000-2005 (Economist, 2011), surely undermining Australia's ability to claim a leadership role on regional forest management.

One major limitation on leadership, perceived in particularly by major retailers, is the low level of awareness demonstrated by consumers on the problem of traded deforestation. As representatives of two Australian timber retailers noted at an APEC meeting on illegal logging in mid-2013,

> *"Consumers (in Australia) are not yet willing to pay more for timber products that are labelled sustainable or legally harvested"* (John Simon, personal communication, 2013),

and,

> *"There is no driver from the consumer for sustainable products in Australia, talking as a mainstay rather than the market for boutique products"* (Gomm, 2013).

These retailers lament the absence of a demand or willingness on the part of consumers that might reward – including through price premiums – existing leadership, whether focused on legality or sustainability. At the RSPO annual general meeting in 2012, Walmart's representative, Julian Walker-Palin, noted a similar problem with palm oil,

> *"The challenge with palm oil is that it is not currently in consumers' minds... [Our sourcing decisions] are not being driven by consumers, [they are happening] despite the lack of pressure from consumers..."* (Walker-Palin, 2012).

This lack of awareness poses difficulties for retailers, as Walker-Palin expanded upon,

> *"...[this] leads to further debate being needed. Is it sufficient that the big brands just deliver this on behalf of consumers, or should we be putting more effort into education of consumers?"* (Walker-Palin, 2012).

While Walker-Palin posed this question rhetorically, at least one retailer has answered in the affirmative, with Unilever releasing a strategy – based on research by well-known sustainability and behavioural experts – for reducing the company's impacts. The release of this strategy was primarily aimed at consumers of its products, yet the company's CEO, Paul Polman, explicitly hoped to inspire Unilever's peers to follow its example, as he noted in the document's Foreword:

> 'And for the first time we are publishing our own model for effective behaviour change. We call this approach the Five Levers of Change. It offers a practical tool... We hope others will also use it in tackling the big sustainability challenges we all face' (Polman in Unilever, 2011).

So, multiple major retailers recognise that low levels of consumer awareness and willingness to reward leadership on traded deforestation in turn places a limit on their ability to demonstrate that leadership. However, as participants also note, illegal logging laws can play a valuable role in alleviating this limitation, at least in the timber sector, since,

> *"Government legislation actually creates a shift in consumer awareness... [and] will give [us] more of a platform to communicate with customers about the things they care about"* (Gomm, 2013).

This perspective reveals a promising, supporting role for government-led regulatory responses in assisting the private sector, through providing a platform, to communicate with its consumers about traded deforestation. There is a paradox here too, however, since governmental claims to a supporting role for private sector actions on deforestation may be most substantiated – and therefore, valid – only when government itself enacts regulatory responses. This finding does two things. Firstly, it further underlines the importance within the UK of the outreach efforts of publicly-funded Central Point of Expertise in Timber (CPET), while suggesting areas where the US Lacey Act, in particular, could be better supported. And secondly, the finding suggests that the 'anti-regulatory spasm' that has led the US Government to rule out

any regulatory responses to the Tropical Forest Alliance may deeply limit its contribution to that forum's efforts. More generally, government claims to be assisting the private sector are by necessity weaker when regulatory measures are absent. This is a crucial, and often overlooked, role for the illegal logging laws adopted in the EU, US and Australia, which as participants suggest, help to create a context conducive to stronger and broader private sector responses to traded deforestation.

Convening power

Another pathway that both Walmart and the US Government refer to explicitly sits roughly halfway between leadership and collaboration. These actors note both their willingness to play 'a convenor role' in bringing together other actors for collaborative responses, presumably to help achieve more than each actor would individually. Following on from his earlier quote, where Walker-Palin noted that Walmart's purchasing of palm oil was 'too small' by itself to drive change in supply chains, this representative went on to explain that,

> *"So the particular area we want to work on is to continue this convenor role... [because] while we alone can't drive changes because our volumes are too low, as a large company we have an influence, and we want to use that influence for good"* (Walker-Palin, 2012).

The merit of the 'convenor role' lies in the fact that coalitions and collaborations do not necessarily emerge organically; rather their formation can be aided by the dedicated resources, energies and attention of a major actor. Walmart clearly identifies the need for actors to play this role on palm oil, and perhaps other deforestation commodities. For its part, the US Government used the identical term in its announcement of its strategy to address illegal wildlife trafficking. Under a commitment to 'Encourage development of innovative approaches', the document reads:

> 'We will leverage the US' technological expertise and *our convening power* to promote creative ideas, innovative solutions, and strategic partnerships to address... this illegal trade chain. We will challenge the private sector, the nongovernmental organisations and academic communities, and partner countries to think beyond business as usual' (emphasis added; Obama, 2014:11).

As the US Government envisages it, then, a convenor role entails not just the ability to compel an audience but also to leverage that 'power' to influence the behaviour of the other actors present, to 'challenge' them to 'think beyond business as usual'. Convening power therefore implies an ability to bring together audiences that might otherwise not coalesce, and demand further commitment from those actors than might otherwise eventuate. These audiences may then

become formal or informal collaborations, usually but not always amongst peers, such as the CGF, TFA and the POIG. The US Government's intention to direct its convening power towards the private sector, as well as its peers, reveals the advantage that governments have in engaging other actor-types. The ability of private sector actors to achieve the reverse, engaging governments, is likely to be more highly circumscribed, as evidenced by the CGF's – and multiple participants' in this study – frustration with the ill-defined role of the US Government within the TFA.

Collaboration

Combining aspects of leadership and convening power, a Unilever participant in this study explains that company's view of its role within the CGF, which brings together over 400 of the world's most major retailers and manufacturers. As the participant notes,

> *"We find we have very strong leverage in the CGF in taking the lead on new commitments, and that influences our peers to take the same commitments. And so with that momentum, the idea is that there will be a change" [3].*

While this example clearly exhibits the quality of leadership, it is exercised within a collaborative context. These collaborations – whether grouping of government, industry associations, or others – provide another pathway through which actors with insufficient coverage of the deforestation commodities can seek to leverage change beyond their supply chains. Actors have frequently recognised these opportunities. For instance, the UK Development Minister argued in a speech that,

> "Britain has a small influence on the palm oil markets. The UK at large consumes only 1 percent of palm oil traded internationally. However, EU countries together account for 22 percent of palm oil traded internationally, offering much greater scope to influence the market" (O'Brien, 2012).

The UK has played an outsized role in encouraging EU-wide action on timber, beginning the introduction of its public procurement policy for timber and wood products (supported since 2004 by the establishment of CPET). It has also been influential in encouraging the EU's illegal logging laws, the EU TR, suggesting that the UK has leveraged its own influence towards a collaborative response, with greater potential, to trade in illegal timber. As O'Brien also noted in his speech, perhaps that influence might be exerted to address other commodities,

> "With timber we showed that by taking leadership and encouraging others to act, the effects of the public and private sectors taking action in one country could be amplified. The same is true of oil palm" (ibid.).

In addition to collaboration between governments, private sector actors can collaborate through industry associations to leverage larger change. Such concentrations of private sector actors also make these associations attractive to outsiders, including sustainability schemes, as one FSC participant in this research noted,

> *"Industry associations and platforms are a great way of reaching a wider audience with fewer resources and having an influence on the message that is sent to the member companies. They are a tool for helping to reach more companies who otherwise might not engage with FSC. Some of these forums are also a good opportunity for direct engagement with high-level representatives and CEOs" [9].*

Other industry associations, such as the Dutch and Belgian palm oil industries, which serve as entry-points for much of the palm oil that arrives in Europe, have proven highly amenable to sustainability schemes. Both of these industries have committed to ensuring that all palm oil imported for domestic consumption (in these two countries) would be RSPO-certified by 2015.

However, as with the leadership pathway, participants note significant limitations with collaborations. As well as being a locus for inspiring actors, for example, collaborations such as the CGF and Roundtables such as the RSPO can also lead to inertia and afford actors the chance to 'hide' their inaction from outside pressure. As one supply chain expert explains,

> *"The CGF is a place that collective options can be discussed, and can be acted on. Some businesses I've spoken to have said that they're so small in that group that their voices aren't heard, and they need to go away and develop their own approach rather than wait for [the CGF] to decide on the approach. But where businesses are particularly concerned they just need to push ahead" [10].*

For small actors that are willing to enact responses to traded deforestation, collaborations where their larger peers are yet to reach agreement can lead to sitting on the sidelines; in effect resulting in *less* action than they would have produced alone. A disjunct can also emerge between the objectives of some members of a given association and the overarching position that the association itself takes. For example, Oxfam's briefing report on major food and beverage companies (the 'Big 10') and climate change argues that,

> '...the Big 10 have, for the most part, remained silent in public debates over climate action. With a few notable exceptions — Unilever, Nestlé, and, to some extent, Coca-Cola and Mars — most do not speak out about the need for governments and other businesses to act, despite spending millions of US dollars on political lobbying each year.

'Most refrain from publicly challenging the backward stances of trade associations that represent them' (2014:4).

This limitation recalls the 'lowest common denominator' criticism of the RSPO standard explored in Chapter 5. Consequently, the simple act of combining companies' clout within either trade associations or other formal collaborations such as the CGF cannot be assumed to lead to collaborative action equally as robust or timely as that which can be pursued individually. Indeed, while formal collaborations provide an opportunity for some actors to leverage greater influence, other actors may join these collaborations for precisely the opposite reason. As one supply chain expert participant in this study notes,

> *"Complacency... there's a risk of that happening for sure. There hasn't been a huge rush of businesses saying 'we don't want deforestation in our supply chain'. I think there's still a lot of businesses who are in a happy place, a safe place, with the RSPO..." [10].*

A participant from Unilever agrees,

> *"There is an awful lot of companies sitting on the CGF who have made 2015 commitments, and to this date they have no clue what they're going to do in a couple of years' time. It says a lot about the way many other companies are moving" [3].*

Thus Roundtables and other collaborations provide an opportunity to delay or avoid companies needing to design and enact individual responses to traded deforestation. Membership of these collaborations can in effect be used to shield companies both from the criticism of their peers and from NGOs whose campaigns often provide the impetus for company commitments. The sustainability scheme representative quoted above went on to state that, despite the advantages of targeting collaborations,

> *"...working one on one with a company allows for a more in-depth collaboration [between schemes and companies] and tends to lead to more tangible and faster results" [9].*

How then can companies shielding themselves from scrutiny by their membership of a collaboration be approached? One supply chain expert suggests the following,

> *"[In order to deal with] the complacency aspect, I feel it needs to come to the point where NGOs [change their approach]... NGOs are the ones that are mainly driving what businesses are signing up to and what they're not. And to date a lot of the NGOs that are driving businesses to make RSPO commitments. It's not necessarily the businesses themselves in a lot of cases, it's pressure from local or international NGOs. They say 'Your competitors have done it, so why don't you do it as well? Here's a scorecard...'" [10].*

This participant is arguing that, particularly with respect to the RSPO, the challenge of realising more robust responses from companies essentially requires a shift in the goalposts for company performance. For companies looking to demonstrate credible response, or – more defensively – those wishing to exonerate themselves from further attention, NGOs can inspire stronger responses by making their judgements contingent on more than simply joining the RSPO. This participant's 'call to arms' sits neatly with – and indeed, extends – Chapter 5's conclusion that the dynamics of private sector-civil society interactions can be counter-productive for responding to traded deforestation. This perspective also pre-empts a later finding of this chapter that strong and prolonged engagement with companies' own supply chains – i.e. precisely what can be avoided by joining a Roundtable – is a prerequisite for tangible and effective sourcing policies.

Yet perhaps this shift away from membership of the RSPO as the sole reference point is already taking place, and for an entirely different reason. While NGOs may not yet have transformed their approach, the leadership shown by certain companies – including both major purchasers, such as Nestlé, and major suppliers, such as Wilmar – in going beyond the RSPO's standard in their own commitments will likely have flow-on effects for the perception of others' commitments. As one supply chain expert participating in this study concluded (in March 2014),

> *"it's hard to remember but only just a year ago we were still living in RSPO world, and suddenly we're living in a world of much more ambitious standards and a much more ambitious timeline, so I really do feel a sea change in what the benchmark is" [19].*

This example also affirms an earlier pathway this chapter identified, of leadership. While the shift in the benchmark or palm oil commitments has perhaps been modestly aided by the emergence of the POIG, the real drivers of the shift have been the leadership shown by individual companies, such as Nestlé and Wilmar, as well as the lagging though still important collaborations such as the CGF in committing to 'deforestation-free' sourcing. The two are unlikely to be mutually exclusive; the willingness of Nestlé and Unilever to lead individually may in fact be a precondition for the subsequent adoption of collaborative commitments within the CGF. Nor is this tendency confined to the consumption end of supply chains; Wilmar's commitment is now been emulated by other major traders in deforestation commodities, including the much-maligned Cargill, ADM and Bunge.

Another limitation facing companies might help to explain why leadership has so far proven a more productive pathway than collaboration. As a Unilever participant explains,

> *"Another thing to be aware of ... [is that] there's always a danger of there being anti-trust and anti-competition. So it's a fine line between sharing commitments [between companies]... [and] being well aware of anti-trust and anti-competition laws.*
>
> *"[Therefore we are] not actively trying to convert other companies [to particular sourcing policies]. Unilever can't be seen to influence the market. So for example we can't go to Nestlé to say 'look we've got this deal so let's do this together'. That would be illegal" [3].*

This limitation, deriving from competition law, applies especially to companies with the most significant market power; in effect, it is a constraint on what is perceived as undue use of that market power. This quote shows that companies are highly aware of this constraint. Is it possible, then, that other pathways of influence, such as leadership and convening power, are being pursued simply because some collaborate pathways of influence are legally closed off to them? An account of actual events seems to suggest that in some cases the answer is in the affirmative. An NGO participant provided the following description of a case where Australian companies purchasing palm oil put forward a proposal that all palm oil imported into Australia should be RSPO-certified. (The quote below refers to the Australian Consumer and Competition Commission (ACCC), the regulatory watchdog for private-sector competition.) As the participant explains,

> *"So [while] in theory most industry players were supportive of that [proposal], it raised the possibility of the ACCC getting involved because when the likes of [Australia's two major supermarket chains] Coles and Woolies are making joint decisions about procurement there is the very strong potential there could be collusion there, and so they'd be breaching certain regulations around that.*
>
> *"So that pretty much scuppered that proposal [even though] their motivations were pure. It would have necessitated a costly process to get an exemption or support from the ACCC to get permission to go ahead with this cross-industry commitment. So that's where some of these regulatory requirements, [including] anti-collusion regulation, can sometimes complicate these efforts" [5].*

Despite broad industry agreement, then, Australia was unable to take the robust and comparatively easy path of ensuring only certified palm oil was imported, thereby negating the need to build costly separate facilities to handle certified and non-certified palm oil. As a result, the limitation of competition law prevented the simple conversion of the entire industry – *"overnight" [5]* – on the basis of the unwillingness of only a few minor actors. As pithily

summarised by a Unilever participant in this study, then, the limitation of competition law means that,

> *"until [others] are ready, it's still very much an individual matter to implement change" [3].*

One especially notable collaboration – the Tropical Forest Alliance – is worthy of further scrutiny here on the basis of its collaboration between actors. The origins of the TFA bear out Chapter 4's discovery of the multiple objectives behind many responses to traded deforestation, since the collaboration emerged primarily out of a perceived political need for the US Government to 'bring something to the table' at the 'Rio+20' UNFCCC conference in mid-2012. As one participant with intimate knowledge of the collaboration explains,

> *"Somebody who was interested and in a position of power was facing the prospect of Rio+20 with few US deliverables, [and] they were approached by some folks in the deforestation reduction community with some ideas of a new public-private partnership with corporations. The CGF was very interested in trying to engage governments in helping them meet their 2020 commitments for deforestation-free supply chains. So the stars aligned to generate sufficient interest and drive and a need for deliverables, so that the [US Government] really did prioritise the launch of the TFA at Rio+20" [16].*

The TFA has since enlisted further governments, both downstream – the Netherlands, Norway and the UK – as well as upstream – Liberia, and active engagement by Indonesia (TFA, 2014). Yet multiple participants in this study stressed that the TFA's formation does not in itself augur any meaningful results. As two participants – a supply chain expert and a sustainability scheme representative, respectively – note,

> *"On the TFA, the US has quite a long record of setting up institutions that give an illusion of action but actually don't lead to anything much. I mean, think about the Major Economic Forum, which was supposed to (build momentum) on climate change..." [21],*

and,

> *"The number of initiatives that we are supporting or have to participate in that have to do with tropical forestry, you can't count them. You have lots of these coalitions..." [12].*

So the TFA's emergence in itself is not necessarily considered a 'game-changer', despite its innovative form. Yet these same two participants express different conclusions on its prospects, the first more pessimistic:

> *"I rather think the TFA might be one of those [institutions that give an illusion of action]. I might be wrong, but I think not. At some point you start to think, 'What's the point of setting up another institution, rather than just doing something yourself?'. So I'm a bit cynical about the TFA" [21].*

The second participant, on the other hand, expressed a more optimistic view, stating that,

> *"...when it comes to this specific initiative we do have some hope, simply because the CGF is one of the drivers. The CGF has made some strong public commitments, it has the resources and it has the purchasing power to actually change behaviour, it is supported by the right players" [12].*

In addition to being 'supported by the right players', this participant was also encouraged by the views of at least some actors involved in the CGF on where the collaboration could be most beneficial,

> *"if there is anything that can help, then it's this initiative, especially because you have people like [Unilever CEO] Paul Polman saying 'well we don't want to replicate existing initiatives, we want to strengthen other initiatives like RSPO, FSC, PEFC in better delivering what they set out to deliver'. If that is the approach that comes through, then I think it may actually be a worthwhile initiative. If it helps stakeholders to agree and not to compete" [12].*

In other words, this participant draws part of his optimism from the intentions of the certain members – and specifically, Unilever – *not* to allow the TFA to generate further responses for traded deforestation. This conclusion recalls one of the main conclusions of Chapter 5, which built on regime complex theory to demonstrate that the dynamics of competition between schemes, spurred by both NGO behaviour and company sourcing policies, can act as a limitation on the ability of private sector and civil society to contribute to slowing traded deforestation. Given Unilever's involvement in the POIG, which remains steadfast against creating a rival to the RSPO, it seems fair to conclude that within Unilever at least, if not more broadly, the counter-productive outcomes of proliferating responses are being recognised and heeded.

As for the prospective contribution of the TFA, it remains unclear how that collaboration will become greater than the sum of its parts. The blanket dismissal of regulatory options by the governments involved – for reasons canvassed in Chapter 6 – stymies the possibility of productive interactions between regulatory responses and leading company commitments. Because the companies within the CGF had already committed to strong, collective sourcing policies for the deforestation commodities, they must have anticipated some kind of further

assistance in approaching the US Government. The US Government's early decision not to entertain regulatory options therefore demonstrates and emphasises the self-fulfilling prophetic nature of governments' tendency to cast traded deforestation as a private sector problem.

Passive pathways

The three pathways introduced above – leadership, collaboration and peer pressure – are all 'active' in that actors deliberately seek them out in an attempt to achieve greater influence than is possible through their own coverage. Yet it is also worth considering evidence and perspectives on the possibility that actors and responses might stimulate greater coverage passively, akin to Auld et al.'s. (2008) 'unintended consequences' (specifically for certification). This section will introduce that evidence, and perspectives on it, under the umbrella of four 'passive pathways'.

Peer pressure

The FSC provides an excellent example of a well-studied response that has exerted an influence beyond its immediate coverage. As Chapter 5 canvassed, through its mere existence (i.e. unintentionally) the FSC put 'upward pressure' on the standards of various industry-backed forestry certification schemes that had emerged in reaction to the FSC (Smith and Fischlein, 2010; Auld et al., 2008). The FSC openly acknowledges, and in fact welcomes, the influence that it achieved through the dynamics of competition with the PEFC scheme. An FSC participant explains the lesson that the scheme took from this history:

> *"One thing that we can do is by having a strong system, demonstrating responsibility and being credible, that gives us a competitive edge, but it also encourages other certifications to improve over the years in order to meet the requirements of public procurement policies, where they are compared with FSC.*
>
> *"If that has a positive impact on the forest, then that's us achieving our mission..." [1].*

The FSC has interpreted that its leadership in 'having a strong standard' can have a flow-on effect on its rivals' standards. Yet because its behaviour is not driven by an intent to generate this effect, but instead to 'gain a competitive edge', the pathway of influence can be regarded as passive. Furthermore, the strength of the evidence for the example of the FSC has led other sustainability schemes to espouse the potential of this pathway for other deforestation

commodities. For example, during the 'Roundtable of Roundtables' discussion at the RSPO general annual meeting in 2012, the Executive Director of the RSPO stated that:

> *"We have come to terms with the fact that we are going to inspire others to come up with standards...at the end of the day the market decides, the market differentiates... [and] at the end of the day if every one of these standards delivers, we are in good stead"* (Webber, 2012).

Webber's claim is still in the process of being borne out, with notably different dynamics produced by the entrance of national palm oil standards in Indonesia and Malaysia (Djama et al., forthcoming). Continuing one of the major themes of this study, however, there are also *a priori* reasons for scepticism over the claim that 'every standard might deliver'; more realistically, new schemes and standards are frequently designed to undercut existing schemes. As Chapter 5 demonstrated, the simple existence of multiple schemes creates competition, the negative effects of which are often exacerbated by the behaviour of schemes and NGOs. When the POIG, launched in the year following Webber's comment above, decided not to develop a rival scheme to the RSPO, it demonstrated an awareness of the danger of these counter-productive effects.

Further, not everyone is willing to accept Webber's claim that the RSPO might 'inspire others', since in stark contrast to perceptions of the robustness of the FSC's standard, the RSPO's standard is instead widely criticised for the weakness – or indeed, absence – of several obviously applicable environmental criteria. This might explain why one NGO participant in this study noted (prior to the POIG's emergence) that,

> *"By all means if there are other schemes that are emerging that are stronger [than the RSPO] and can attract perhaps more niche but a higher quality standard, that's great, because it allows some of the leaders to set the bar even higher and not to be reduced to the common denominator of a broad based scheme" [5].*

The point remains that it is difficult to say *a priori* whether additional responses – competing schemes – will have a beneficial or counter-productive effect overall; the balance will likely differ on a commodity by commodity basis and depend heavily on the relative positions of the schemes involved. For timber, the major question is whether legality schemes will undermine or support the established sustainability schemes of the FSC and PEFC (Cashore and Stone, 2012); while for palm oil the question is whether the standards of the RSPO can be raised – including through possible competition – to encompass greenhouse gas emissions, protection of forests with high conservation value, and prevention of planting on peatlands. As a subsequent section in this chapter will argue, however, perhaps the more pertinent question is whether the RSPO,

with all its inherent problems, might be threatened and supplanted not by a new scheme but instead by deeper and more direct engagement between companies and their suppliers.

As a pathway to influence beyond coverage, peer pressure is not limited to the private sector and civil society. Participants in this study detailed several examples from which it is obvious that peer pressure also operates passively among governments. A first example is the case of New Zealand, whose large neighbour, Australia, implemented its illegal logging laws in late 2014. Together with the US and EU's own versions of those laws, then, markets are progressively being closed off to illegal timber imports. Chapter 3's concept of displacement is highly relevant here, and suggests a danger for New Zealand in these actions in the absence of its own government following suit. As one policymaker from NZ explained (in mid-2013):

> *"We are receiving a number of requests from exporters, but also forest owners and wood processors for the implementation of regulation similar to that of Australia's. Their main concern, as it has been articulated to me, is that exporters of wood of dubious legal status will see New Zealand as an alternative destination once the Australian market is regulated. This could either be as a domestic market in itself, or for onwards shipping to Australia and other markets" [13].*

By this comment, it seems apparent that illegal logging laws in the US, EU and Australia might passively ratchet up the pressure on other governments, especially those with significant exports to those markets or which might be seen as 'alternative destinations' for illegal timber. It is also instructive here that the source of pressure on the NZ Government to follow suit comes only passively from other governments but far more overtly from domestic actors with operations that depend on external timber sources and final markets. The final section in this chapter will make the argument that reflexive calls for regulation from domestic actors is likely to be a theory of change with substantial traction.

A second example of peer pressure operating passively between governments was elucidated by an FSC participant familiar with the implementation of the EU illegal logging laws, who noted that,

> *"Norway – even though it isn't in the EU – has been keeping up with a lot of EU [timber] legislation, in order to keep trade relations" [4].*

Clearly, then, the EU's laws have achieved an expanded influence in motivating actors within a country outside the EU to nonetheless comply with those laws. A similar effect can be expected for any NZ exporters of tropical timber products to Australia.

Peer pressure may also serve to streamline, or harmonise, responses across actors, which Chapter 5 concluded holds considerable potential to remedy the fragmentary tendencies of responses to deforestation. The effects of this pressure are especially visible across companies, which for example are working to align their respective 'no deforestation' commitments through The Forests Dialogue (2014). Governments also behave in ways suggestive of peer pressure, as one participant explained in relation to the EU illegal logging laws,

> *"[There is a] strange paradox in the EU where governments want freedom of manoeuvring, but once they get that they want to know what other governments are doing and they don't want to do anything too differently, so you get this coordination of implementing rules" [4].*

This example demonstrates that peer pressure can result in a *de facto* harmonisation of policies across countries, even where no regulatory imperative demands it. A similar outcome might also result in situations where governments must make determinations with regulatory implications, such as the US Environmental Protection Agency's decision on the environmental standards for imported palm oil to qualify for the biofuels mandate. As the environmental news website Triple Pundit noted in relation to a previous decision by the EPA,

> 'The EPA's decision will have far broader influence than just US biofuels markets. Other governments are looking closely at EPA's findings as a basis for their own assessments of palm oil's impact. In particular, Europe, which uses substantially more palm biodiesel than the United States, is currently assessing the shape of its own biofuels mandate' (2012).

In all likelihood, this equation has since been reversed, since in early 2015 the EU is poised to limit the proportion of its biofuels mandate that could be contributed from 'first generation feedstocks' (which includes palm oil), while the EPA is still considering its 'determination' on palm oil. But the general point remains that peer pressure may lead governments to de facto harmonisation of policies across jurisdictions. Again, the importance of this outcome – and this pathway – is in its potential to ameliorate the fragmentation that results in the proliferation of both regulatory responses and sourcing policies.

Finally, one important interpretation of this pathway permits peer pressure to also be recognised at the *upstream* end of supply chains for the deforestation commodities. For example, following the announcement of the soy moratorium in 2006, through which a broad coalition of domestic and international actors committed to severing the Brazilian soy industry from deforestation, Indonesia soon introduced its own moratorium on the granting of new timber

concessions. As the former Director General of CIFOR, Frances Seymour, explains, based on her experiences in Indonesia at the time,

> "When the Brazil [soy moratorium] was signed, maybe [in Indonesia] there was a little bit of a feeling that 'well, we could do that too'" (Seymour, 2014).

Peer pressure can be clearly detected at both up- and downstream ends of supply chains for the deforestation commodities. Similarly, it exerts itself on both public and private responses. Its has many possible effects, all of which are likely to be positive, including stimulating new responses, encouraging actors to voluntarily comply with responses that emerge in other jurisdictions, and harmonising details of existing responses.

Influencing suppliers

From the beginning, this study has confined itself to analysing downstream responses to traded deforestation, in light of the gaps in understanding that pertain to their limitations and potential contributions . As Chapter 6 noted, however, international ownership structures can complicate this picture, with – for example – nodes such as traders operating equally across Western and other producing countries of commodities such as soybean, beef and palm oil. Further, the supply chains of some actors, such as Cargill, stretch all the way from the consumption to the production ends of these chains, making it hard to accurately allocate some actors to either 'upstream' or 'downstream' ends. These features of contemporary supply chains, which have emerged organically through the course of this study, become vitally important for the current discussion on pathways of influence, as contrary to their stymieing effect in Chapter 6 they actually expose further *opportunities* for that influence to be exerted.

A representative for Unilever explains how one such manifestation of the influencing suppliers pathway functions,

> *"While [our] purchasing 3 percent of [global production of] palm oil may sound small, we are the single biggest buyer. Unilever, just by the fact we're asking for sustainable and traceable palm oil, means that our suppliers will have to move... Suppliers will have to change the way they're buying palm oil in order to supply us with what we need..." [3].*

In order to comply with Unilever's requirements, then, suppliers will have to themselves change their production practices (of course, if these suppliers rely on a further set of companies, the requirements will theoretically be 'passed on' further upstream). Clearly too, the size and therefore market power of the actor enacting the sourcing policy is a major determinant of its capacity to influence suppliers; for smaller purchasers, the possibility exists that suppliers

might instead opt to supply other customers (which would be a tidy instance of displacement). As the Unilever representative above continues,

> *"Again I think it all comes back to the volumes. It's relatively easier for Unilever to make the business case [for our suppliers to change] because we buy the biggest amount of palm oil in the world. Then we can have an influence on the way our suppliers work... so we're using that to our advantage. But that clearly doesn't hold for some of the smaller buyers..." [3].*

This participant contends that market power is relevant for determining the ability of downstream actors to influence suppliers. Yet not all participants in this study agreed. As one supply chain expert noted,

> *"Any business can do it [engage with their suppliers]. It's open to all in size, scale. In terms of leverage [scale] is an issue, but companies can find ways of going about this. They just need to look how they can work with other businesses, [using] a pre-competitive approach of working together and defining potential supply chain partners. That's where it's heading at the moment" [10].*

A pathway introduced below – Signalling – will explore the possibility that even in the absence of sufficient market power, groups of actors can nonetheless contribute to influencing suppliers' practices. Yet according to the participant above, engaging directly with suppliers can still be an effective way for smaller actors to seek influence, especially in comparison with simply announcing a policy on paper. Such engagement may even be necessary to convert the policies that announced by actors, both big and small, into actual changes in practices within supply chains. But before exploring this argument further, it is necessary to recognise an important mechanism enabling influence on suppliers to generate broader influence than coverage suggests.

That explanation begins with the knowledge that suppliers, as well as producers, generally have multiple customers. Suppliers also benefit from making their production practices and supply chains as simple as possible. As a result, if one customer demands a higher standard – such as 'deforestation-free', or certified –a supplier might choose to meet that standard not just for that customers' supplies but also other fractions of its production and supply chains. An example of this influence emerged through the timber procurement policy of the UK Government. As Brack and Bailey (2013) note,

> 'The evidence also suggests that [these policies] can have a much broader impact on consumer markets than simply through the direct effect of government purchases.

> Suppliers' preferences for relatively simple supply chains magnifies the effect; if they need to supply sustainable timber for public purchasers, for example, the evidence suggests that they are tending to prefer to supply the same products to their other customers too.
>
> 'One estimate suggested that government procurement can achieve market leverage of up to 25 per cent of the market (compared with about 10 per cent for direct purchases) when knock-on effects such as these are included' (p19).

So suppliers' demand for simplicity across their production and supply chains can work in downstream actors' favour. This logic appeared to apply equally for the trader, Wilmar, which decided to implement a 'no deforestation' commitment across both production and trading of palm oil, firstly, but also of other commodities relevant to deforestation such as soy. Cargill, which also straddles both production and trading for palm oil and soy, among others, followed Wilmar's example in late 2014.

Even for retailers confined to the downstream end of supply chains, however, the lesson of the UK Government's timber procurement policy is recognised, especially in light of the limitations on companies collaborating with their peers. As the Unilever participant continues,

> *"Our [intention] is to try to change the industry first through our own suppliers, and then let's see what happens to the rest of our peers" [3].*

Indeed, as foreshadowed above, multiple participants articulated this not as a desirable pathway for extending the influence of a policy, but as *necessary* for implementing those policies in the first place. The Unilever representative continued,

> *"You can't just say 'we want to buy sustainable' without making links to your supply chain..." [3].*

Another participant agreed and explained why this is the case,

> *"There's still a lot of knowledge that [remains] to be built within the palm oil industry, about how the industry can be supported to improve its practices" [10].*

A third participant, Mark Gomm, the sustainability director for the major Australian timber retailer, Bunnings, confirmed the importance of this missing knowledge, when he noted at the APEC illegal logging workshop,

> *"One of the biggest challenges, for us as for others, has been education along the supply chain. 10 years later [after it began implementing its sourcing policy], Bunnings still has to*

> *step into supply chains to build capacity in our suppliers, [to teach them] to know what questions to ask, etc. ..."* (Gomm, 2013).

This comment reinforces the under-discussed fact that designing and announcing a sourcing policy can surely count only as the beginning, rather than the end, of the process of changing supplies. As one participant noted, making that policy a reality requires *"that companies start taking responsibility for their supply chains, really dig into the details and get their hands dirty..." [10]*. In this sense, a commitment to source only certified versions of the deforestation commodities is a double-edged sword; while it carries with it an intention, if it does nothing more than channel actors into large collaborations such as Roundtables, it may overshadow a deeper and more direct engagement with suppliers. Given that 'most firms still do not have good means to measure or manage upstream or downstream impacts' (O'Rourke, 2014:1126), many companies will be coming from an exceptionally low base if, and as, they begin to engage with their suppliers.

To the extent that this engagement is necessary for realising the changes in practices implied within those policies, participants suggest that the sourcing 'solution' offered by Roundtables and certification may distract from realising these changes. As one participant explains,

> *"if [companies] can support certified growers that's fantastic, but really they also need to support the larger proportion of growers to implement better practices (and perhaps one day become certified)" [10].*

Here a crucial junction emerges with Chapter 3's exploration of the changes to international supply chains wrought by processes of globalisation, since the post-Fordist nature of those chains renders it more difficult – if not impossible – for downstream actors to productively engage with their suppliers. Indeed, they may not even be wholly aware of who those suppliers are; fully half of global manufacturing executives 'do not have visibility beyond their Tier 1 suppliers' (O'Rourke, 2014:1124). As a result, companies are actively redressing some elements of the post-Fordist structure of global production, including reducing multiple dimensions of distance, in order to achieve the necessary control over supply chains. For example, as a Unilever participant in this study acknowledges, that company has needed to make changes to its own sourcing practices, *"...moving from short term contracts into longer term contracts in order to make these changes" [3]*. Similarly, Mars provides another example, moving in 2009 to 'unilaterally pay an extra £200 per tonne to their suppliers' for its cacao, on the basis that 'the start of the solution [for ensuring long term supply] would be an improvement in farmer income' (IDH, 2013:9). Other, more minor examples exist where supply chains for cacao have been

intentionally shortened to enable quality control and value capture within producer countries (Mann, 2014).

A minimal reading of these examples suggests the utility of influencing suppliers in preventing the simple displacement of problematic versions of commodities to other purchasers. When downstream companies meet their policies by 'digging into their supply chains' to improve the practice of existing suppliers, rather than seek out other compliant suppliers, they can effectively mitigate against the danger of displacement. But there is also a more powerful conclusion available here. To the extent that the above examples represent a broader shift in the structure of international supply chains, that shift demonstrates that the current structure of international trade – post-Fordist, with high distances and low awareness – is at the very least unconducive to allowing downstream actors to respond adequately to traded deforestation; in fact, it may even be preventative of those efforts. The behaviour of Unilever, Mars and others, then, provides confirmation of one of this study's major themes, raised in Chapter 3, that in limiting responses' subject of governance to problematic versions of certain commodities, in ignorance of viable alternatives or complements, creates a limitation on the contribution that these responses can then make to slowing deforestation.

Learning

Learning is a further passive pathway for expanding influence, consistently identified by participants and supported by multiple literatures. One FSC participant in this study argued that scheme's contribution goes beyond the forests it certifies by creating conditions where learning can occur, as he explains:

> *"[it's] not just about the forests that engage with FSC... [because] if by some forests getting certified that improves practices across a region, either through a change in attitude or a change in practices, then FSC is achieving its mission. By changing practices in one place you can influence practices in another" [1].*

Forestry certification literatures often point to such 'indirect effects' or 'unintended consequences' of sustainability schemes, with Auld et al. (2008), for example, concluding the importance of the 'broader implications of certification' (p200). (It is necessary to note, in this context, that even certification's direct effects are less than perfectly understood, but are currently being examined through a major collaborative study; see Romero et al., 2013). Multiple other authors echo this participant – and Auld et al.'s – claim, including those behind the comprehensive Towards Sustainability Assessment, which 'found abundant case examples of improved practices demonstrated by certification processes, then adopted more widely' (Steering Committee, 2012:ix). At least part of the reason for this diffusion of practices was that

'the infrastructure put in place to enable certification... also promoted the learning and uptake of sustainable practices' (ibid.).

However, not all participants in this study, including those from the FSC, were as convinced of the potency of these indirect effects as the authors above. As one participant concludes,

> *"If you look at our mission, it doesn't say that [our influence] is only through certification, but I do think that the reality has been for quite a while that in practice it has [only] been about certification... I am probably a bit more pessimistic about the FSC's wider impacts, such as knowledge sharing, etc." [4].*

Clearly, contrasting viewpoints coexist on the ability and potency with which sustainability schemes enable learning outside of certified forests or agriculture plantations. Contradictory perspectives such as these reinforce this chapter's claim that judging the importance of pathways is more often than not a highly speculative task. This section does not seek to decide either way on the potency of the direct versus indirect effects of sustainability schemes. However, it does make the separate claim, much more pertinent to this study's focus, that learning is a pathway to influence beyond coverage, and further, it is applicable to both ends of supply chains.

At the downstream end of supply chains, learning can occur when practitioners' and policymakers' involvement with one response (or set of responses) leads to the opening of further possibilities. The EU's FLEGT Action Plan, which encompasses both Voluntary Partnership Agreements with timber-producing countries and the EU illegal logging laws, might yet prove instrumental in this regard. As one supply chain expert notes,

> *"the FLEGT experience has been a good one, and people think it's been effective, and that shows how the EU can use its trade and market access to achieve good things" [21].*

This participant was optimistic that this positive experience might prove conducive for the design and implementation of a complementary EU Action Plan for agricultural commodities relevant to deforestation, noting,

> *"So what we are trying to do is push for is an EU Action Plan like the FLEGT Action Plan, which triggered a whole lot of debate and discussion and options papers and all sorts of useful thinking, and we think if the EU would start that off it would help tremendously" [21].*

As set out in Chapter 6, however, the difficulties of regulating these commodities, combined with the enhanced sensitivity of producer countries *vis-á-vis* timber, considerably narrow the

political lassitude available to consumer countries to engage on palm oil, beef and soya. This participant said as much in acknowledging,

> *"So far no one in the EU has said 'Yes, we are going to address this [traded deforestation] systematically'" [21].*

Again, Chapter 6 revealed many of the constraints on addressing traded deforestation 'systematically'. Yet for present purposes, it is also crucial to recognise that politicians have expressed optimism that their experience responding to timber supply chains (through procurement policies and illegal logging legislation) could prove valuable in any responses to agricultural commodities. As the UK Development Minister straightforwardly noted in 2012,

> "Experience gained from working on timber supply chains holds important lessons for oil palm and other commodities associated with deforestation" (O'Brien, 2012).

Governments have in fact already recognised the utility of allowing for learning to occur, for instance through phasing-in policies. As one participant describes with reference to the implementation of Denmark's new (sustainable) timber procurement policy:

> *"Public procurement policy change will be applied to the easiest products first: office paper, then the construction sector, then moving into school pencils and other more tricky products later on. Yeah, in practice it will be a phased approach, to give people a bit of time to implement and also give suppliers time to catch up" [17].*

The idea of a phased or step-wise implementation of a given policy provides another lens through which to examine the tension between the two reference points of legality and sustainability, as developed through previous chapters. In light of a learning pathway, this chapter can now explain why multiple participants – including representatives of sustainability schemes – have been supportive of the trend towards legality as encouraged by illegal logging laws. As one supply chain expert contends,

> *"...if you put in place a lot of the mechanisms you need to make sure your timber is legal, you're quite some way along the road to making sure it's sustainable as well. So [while some] people were aware of the problem [of focusing on legality] right from the beginning, and some NGOs were opposed... most people thought... it opens up space for further developments" [21].*

Similarly, while noting that there are probably exceptions where *"the laws are so lousy that [legality] doesn't matter" [4]*, two FSC representatives still considered legality to be a stepping-stone, or gateway, towards sustainability,

> *"[The distinction between legality and sustainability] has been a concern for some people in Europe. I personally don't feel that concern at all. I think first of all that legality is a very important first step towards sustainability" [4],*

and,

> *"On the whole, what we've seen in most places is that once you've got to the point of demonstrating that you're legal and have supply chain of custody then you've already made a big step to becoming responsible or sustainable... the benefits [of legality] outweigh the risks [that it could become a new baseline]" [1].*

Others disagree, of course. A representative of the other major forestry sustainability scheme, PEFC, argued that,

> *"We don't want to encourage baseline management guidelines [around legality], we want to make sure that people go directly towards SFM..." [12].*

But that participant also noted the crucial need to *"build the necessary capacity on the ground to enable forest owners to do that" [12]*. This perspective allows further clarification on the question of whether legality-focused responses support or undermine sustainability-based responses to be refined. Namely, the question then becomes whether the learning necessary to achieve legality is a supportive 'step towards sustainability' while simultaneously not encouraging producers to come to rest at this lower baseline. Again, this study is not designed to reach conclusive answers on this tension, but it is able to note its importance in determining whether the trend towards legality acts as a limitation on the potential contribution of existing sustainability-focused responses to traded deforestation.

For this chapter's purposes, what is important to note here is that the basis for believing that legality will support sustainability derives – essentially – from the presence of a learning pathway. This claim rests on the idea that what actors at both ends of supply chains require to achieve sustainability is also required to comply with legality. Continuing to develop the conclusions reached in Chapter 6, then, this idea casts the illegal logging laws in a new light, as a baseline that will require suppliers to enact changes in practices that can then be leveraged towards further change to reach sustainability. Lambin et al. (2014) provide support for this

notion when they note that 'progress on the learning curve associated with new instruments can only be achieved through implementation' (p138).

Participants also saw the potential for this outcome, especially if other downstream responses – chiefly, public procurement – provided an incentive to aspire towards sustainability. As one expert explained,

> *"There's still room for improvement within public procurement; in fact, this is a way to keep raising the bar [from illegal logging legislation]" [17].*

This participant believes that the tension between illegal logging laws and public procurement can produce a fruitful dynamic.

Other examples exist where learning is not just hoped for, but embedded within responses. Sustainability schemes, for example, usually seek to embed a similar tension conducive to learning. As one participant from the NGO, WWF, explains,

> *"One of the key principles across all the schemes we're involved with is the notion of continual improvement, and differentiation from purely legal (even as that catches up over time)" [5].*

This participant suggests that schemes can embed 'the notion of continual improvement' – i.e. learning – in the behaviour of actors holding, or seeking, to be certified.

A further angle on the relationship of schemes to learning is provided by the question of what schemes might *themselves* learn from one another. Literatures recognise the possible benefits of such learning. For example, the Towards Sustainability Assessment notes that 'comparison and learning among [certification] systems should also be encouraged, even when such systems focus on different commodities or resources, as many of the incentive, behavioural, and governance issues are related' (Steering Committee, 2012:xvi). Similarly, Newell et al. (2012) are concerned by the potential for inter-scheme learning when they ask,

> 'This, in turn, raises… the issue of innovation and learning within and across multi-actor governance [sustainability schemes]. How far do initiatives mimic one another's governance arrangements or modes of working that appear to generate success and learn from others' apparent failings? How far does this occur within particular sites of governance and across them, and what are the means by which this learning occurs?' (p379).

Participants generally lamented the minimal extent to which schemes currently availed themselves of opportunities to learn from one another's experiences. Even the Cross-Roundtable discussion at the 2012 RSPO meeting, which brought together representatives of the FSC, RTRS, MSC (fisheries) and Bonsucro (sugarcane), and would seem to suggest a degree of engagement between these schemes, was probably a fortunate coincidence more than a reflection of the intent for structured learning. As one FSC participant in this study reported,

> *"[It was] accidental that [FSC representative] Alistair Monument went to the RSPO annual meeting. This engagement is 'driven by individuals' rather than a systematic approach to other certification schemes" [2].*

Clearly, an apathetic approach to the possibility of learning from other schemes is likely to undermine any collaboration – representing a greater level of inter-scheme engagement – between them. Recall from Chapter 5 the perspective of an NGO participant, who claimed that,

> *"I know of one of two instances of collaboration, where it suited both parties [major forestry schemes]" [5].*

A representative of one of these schemes, the PEFC, agreed wholeheartedly, pointing not just to the possible benefits of collaboration with the FSC but also the RSPO. This participant stated that,

> *"My argument is always when it comes to tropical deforestation, the major problem is the lack of collaboration between the major actors. I mean, on the one hand we have the RSPO sitting right next to us [in Europe]. How often do we actually talk to them?*
>
> *"What we are saying as a certification system is that everything that happens at the landscape level is something that must be clarified and detailed by governments, it's beyond the level of certification systems, which of course, is quite correct. But there might be a chance for better collaboration to also consider landscape level changes" [12].*

This lament about schemes' willingness to learn from each other, which is partly self-directed, demonstrates a key difference to the learning involved in the EU Action Plan and step-wise implementation of policies. It most likely reveals the effects of entrenched competition that were shown in Chapter 5 to be limiting – in many instances – the overall contribution that certification and Roundtables can make to slowing the deforestation connected to relevant commodities. In doing so, it suggests that the capacity for learning is further collateral damage from this competition. Even where the potential benefits are observed and understood, schemes

can be so focused on the parameters of increasing their coverage and creating direct effects that they forgo the possibilities of boosting their influence through more passive pathways of influence, including learning and collaborating.

Signalling

One final passive pathway – signalling – relates to the capacity for responses to traded deforestation to function collectively, and positively, providing a contrasting interpretation for the proliferation of responses that this study has canvassed. Multiple participants downplayed the fragmentary, conflicting features inherent in this proliferation in favour of emphasising the signals that responses collectively convey to upstream actors. This idea finds support from Bernstein and Cashore (2012), who note that, 'it is often the interaction of mechanisms and processes, sometimes along multiple pathways, that create collective influence' (p603). The importance of this pathway, then, which is largely intangible, would be hard to overstate, especially in light of the magnitude and nature of changes that the industries for the deforestation commodities require.

Speaking at the Cross-Roundtable discussion at the RSPO annual meeting in 2012, the Executive-Director of the RTRS, Agustín Mascotena, summarised his view on the nature of the change sought in the soya industry:

> *"at the end it's about more of a cultural change, a paradigm change in production and the supply chain..."* (Mascotena, 2012).

Multiple participants in this study concur with Mascotena on the need for a paradigm change within industries. At least one participant saw evidence that such a change could already be underway:

> *"In terms of the wider picture, the whole debate about deforestation is starting to change, to the point where deforestation is becoming less acceptable politically, as well as practically... that's a change from twenty years ago.*
>
> *"Perhaps it's also becoming less acceptable to do forest management in some intact forests... that might continue changing in the future, particularly with high biodiversity, carbon or water values" [1].*

Multiple participants were confident that current responses to traded deforestation will add to the impetus for this paradigm change, especially through the sheer collective weight of the responses that have proliferated over the last two decades, and in particularly the most recent decade. In the words of a supply chain expert:

> *"It's a 'bundle of signals' approach. You want to give as many signals as possible to the producer country governments that things are changing and they need to get on board.*
>
> *"One set of signals can come from domestic civil society, another set can come from domestic producers, another set can come from the international supply chain actors... another set of signals can come from consumer country governments, another set can come from international financiers..." [19].*

According to this logic, it is the collective message inherent in current responses that will signal to upstream actors an emerging paradigm where certain requirements must be met in order to export, at the very least, to those markets covered by responses. This signal can in turn create an awareness for upstream actors that, along the lines of this study's argument, international trade is being 'retro-fitted' with supply-chain focused governance, in this case specifically to disconnect consumers from the problem of tropical deforestation. A second supply chain expert expands on the signal pathway:

> *"I think it was part of the drumbeat of inevitability that deforestation-free standards were coming, that we the community who care about forests have needed to bootstrap ourselves up to convince companies like Wilmar... and send the signals.*
>
> *"...And this is 5 years, 10 years [of effort] and a lot of different processes – REDD, UNFCCC, supply chain sustainability – you know, there has been an increasing trend towards a global norm of deforestation-free production..." [16].*

It is against this backdrop of a shift to 'deforestation-free production' that companies have been convinced that it is in their own interests to change their production and strive for compatibility with the requirements of responses to traded deforestation. The same participant expresses the 'business case' for this change as follows:

> *"These companies, who actually are in a position of power to change the way business is done, have been convinced that they were going to have to do that sometime soon, they might as well do it now they might as well get the kudos for being at the head of the line rather than being the laggard" [16].*

The following section on theories of change will show how leading companies in turn place pressure on downstream governments (a theme briefly explored in Chapter 6), showing how company incentives to 'be at the head of the line' can – theoretically – translate into regulatory action.

More immediately, however, while the signalling pathway derives its potency from the sheer number and breadth of current responses, it remains the case that individual responses still have differentiated roles to play within that context. An FSC participant explains that as *"WWF and Greenpeace are making the worst behaviour more transparent... the FSC can demonstrate that good tropical management is possible even in the 'worst' countries for forestry" [2].* Further, this chapter has also already explored how illegal logging laws and public procurement policies can *together* construct a productive dynamic for timber, where legality becomes the baseline while producers still have an incentive to push towards sustainability.

Signals can be strengthened when responses are endorsed by producer country governments. The Tropical Forest Alliance, for example, gained credibility with Indonesian palm oil producers and traders after a foundational meeting of the TFA was hosted by the Government of Indonesia, as one participant explained:

> *"I do think the TFA has been successful in some critical ways. [One] service that the TFA has played a role in is in creating that echo-chamber [of reinforcing signals].*
>
> *"If the [TFA] meeting in Jakarta achieved anything, it showed the Kadims and the medium-sized producers, it showed Wilmar and it showed IOI that some of the biggest companies in the world are going to march into your own turf and tell you that they care about [deforestation], and your very own government is going to stand there next to them and agree. Those are some pretty strong signals" [16].*

As this participant describes, this meeting enabled the TFA to send a clear message about the depth of downstream actors' intentions to Indonesia, the country with the highest deforestation rate. The host government's explicit support only added potency to this message. Clearly, then, the TFA is an example of an individual response that retains an ability to achieve influence individually. But even responses with negligible direct effects can nonetheless strengthen the signal emanating from the set of responses as a collective. As the above participant emphatically concludes,

> *"I would not discount the value of global signalling, you know. We are essentially trying to create norms and while things like a [hypothetical] deforestation-free procurement policy by the US Government is worthless in terms of tonnes [since] we don't import Brazilian soy, we don't import palm oil, and certainly the US Government doesn't buy it, because we have Buy American provisions in our procurement policies.*

> *"[Rather] it is symbolic and it is part of global signalling, and that global signalling, that creation of a global norm, is what will provide a rising tide... The dominos will fall in front of that tide, even if they won't fall in front of specific actions" [16].*

3. Theories of change

The above pathways offer current responses, and the actors that implement them, the promise of an influence beyond their immediate coverage, in the process offsetting the corollary possibility of displacement. This promise makes them important for a balanced and broad analysis of the potential contribution of current responses.

This section presents one final, complementary set of ideas: three 'theories of change' that intensive analysis of relevant literatures and discussions with participants reveal as especially critical. These theories of change seek to describe how current responses might – including through the pathways of influence above – achieve the transformation of entire industries for the deforestation commodities. In other words, in resolving the ultimate connections of these commodities with deforestation, achieving influence beyond coverage might be necessary for responses, but may still be insufficient for the wholesale change that actors espouse and desire. Through mapping out these three theories of change, the claims and intentions behind responses are subjected to scrutiny, revealing their potential as well as further limitations.

Tipping points

A first theory of change – captured in the notion of a 'tipping point' – is widely supported by actors within the private sector and civil society. It has been publicly espoused, for example, by the Global Director of Sustainable Sourcing for Unilever, Cherie Tan, who at the RSPO 2012 annual meeting claimed,

> *"...ultimately there will be a tipping point, where conversion to sustainable palm oil will become automatic"* (Tan, 2012).

A Unilever participant in this study expanded on this idea, asserting,

> *"Industry will reach a tipping point, say in 5 years time, where the majority of palm oil coming into Europe, for example, will be sustainable, rather than the other way around. If you're not buying RSPO then you're in the minority...*

> *"Suddenly [it will be] easier to be selling sustainable than unsustainable palm oil. It's not that we'll eliminate the unsustainable palm oil... but sustainable will just become part of the way that business works..." [3]*

A participant from the RSPO concurred with this idea, even ascribing a percentage figure for when the tipping point for palm oil might be reached,

> *"When we reach the tipping point, the theory is that everything will come naturally. The uptake of sustainable palm oil then becomes normal... We believe that 16 percent is the tipping point. If we can manage to get 16 percent of consumption to be sustainable, then we believe the rest will come naturally after that" [8].*

The RSPO already certifies 14 percent of global palm oil production, but because only half of this is purchased as certified product, that organisation's ambition to reach 16 percent is largely a problem of generating demand, rather than generating supply.

A participant from the WWF, whose Market Transformation Initiative has provided the impetus for multiple sustainability schemes, outlines the arguments that support the idea of a tipping point,

> *"If some of our assumptions are correct... we think that the more the large players shift they'll drag the rest of the market with them because they'll have no choice if they want to access markets or secure supply... It's not a case of leaving the rest behind, it's more that the others will follow" [5].*

This quote links back to both the leadership and peer pressure pathways of influence described above, since it asserts that once 'large players' start to require 'deforestation-free' versions of commodities, their peers will have sound commercial reasons – ensuring access to markets and securing supply – for following suit. In this sense, the leadership demonstrated by major retailers, for example, might change the equation for rational behaviour by smaller businesses. For instance, Mars' decision to unilaterally pay extra to its cacao producers undoubtedly puts commercial pressure on other major purchasers to do likewise. As the Climate and Land Use Alliance (2014) recently noted, 'many challenges lie ahead, but the disruption of the global commodities business has begun. Business laggards that are unable or unwilling to embrace the new demands and opportunities of the 21st century will lose out, as they have in other disrupted industries' (p5).

Interestingly, the WWF puts a high figure on the point at which the schemes it's involved in could be regarded as successful, noting,

> *"I don't think we'd be considering any of them a success until [they get] up around the 40, 50, 60 percent [of market coverage] mark... So yes we see 50 percent (or somewhere between 25-75 percent dependent on location) as our targets but we think those numbers will continue to increase as markets evolve" [5].*

These figures are not directly comparable with the 16 percent figure quoted by the RSPO participant above; that figure referred to a supposed tipping point whereas these figures refer to the point at which the WWF will regard schemes as 'a success'. However, the final sentence in this participant's quote demonstrates that the WWF foresees an essentially downhill slope once these levels are reached, indicating the expectation that a tipping point will have been passed and coverage can continue to increase automatically.

Participants from the private sector, schemes and civil society clearly believe that tipping points exist, after which coverage can continue to increase naturally. Crucially, though, no scheme has yet reached such a point. This applies to the most mature of the Roundtable schemes, the FSC, which has existed for more than two decades and is perceived to have a strong standard; yet equally to the RSPO, which has been the fastest growing scheme over the last decade but is perceived to have a weak standard. This argument cannot be made unequivocally that tipping points might not exist, of course, though that is a possibility. Rather, the fact that none has yet been reached merely means that the supporting arguments put forward by participants – *"it will be easier to import sustainable than unsustainable; market access and security of supply will drag the market; the rest will come naturally"* – remain untested. The Towards Sustainability Assessment concludes similarly, noting:

> 'It is less clear whether or when there is a point of "market tipping", when demand for certified products is great enough to make certification (or other assurances of improved performance) a de facto condition of market entry, and if so, what conditions would contribute to that effect' (Steering Committee, 2012:xiv).

The present study suggests some conditions that are likely to detract from, or thwart, the possibility that industries could reach tipping points. Amid the turbulent dynamics of private sector-civil society responses explored in Chapter 5 – including new drivers of uptake for the FSC but also a trend towards legality, and a further trend towards bypassing the RSPO – significant challenges are discernible for schemes to continue increasing coverage at all, let alone to such an extent where markets might 'tip'. In a more clear-cut example from earlier in this chapter, the legal constraints of competition law have already prevented one downstream jurisdiction – Australia – from effectively 'tipping' its palm oil imports instantaneously. Despite these limitations, however, and despite the as-yet unproven nature of tipping points, what this

study shows is that many participants hold firm to the idea that they might allow future increases in coverage to be more easily achieved, enabling entire markets to transform.

Some participants in this study are considerably more sceptical about tipping points. A participant from TFT, a consultancy that helps companies engage with and drive change in their supply chains, is unconvinced that 'certification' – referring also to Roundtables – can transform an entire industry towards more sustainable practices. As he explains,

> *"It comes back to a theory of change [for the palm oil industry]... is it by a certification approach? Our view is that no, that's not what's going to happen, it hasn't happened to date... I don't see certification being the mainstream, I think it's largely niche and I see it staying that way for the foreseeable future" [10].*

If certification remains 'niche', at current levels, for instance, then clearly this would challenge the tipping point idea; even if they exist they could no longer be viewed as a realistic way to transform an industry. Recall that one attraction of the idea of tipping points is as an antidote to displacement. A tipping point would enable the leadership of some actors to produce conditions in which even the lagging actors are increasingly disconnected from deforestation. Yet some participants then revealed a paradox in this idea. As one FSC participant notes, the uptake of that scheme in its 'traditional' markets is trailing off:

> *"... in some markets you'll see that slowing... already slowing in North America and other places, partly because... a lot of areas where the market is sensitive have been affected already" [1].*

Although this participant maintained *"I still see a lot of potential for growth" [1]*, this growth would be largely dependent on *"a growth in market awareness in other places" [1]*. This point was echoed by other participants for other commodities, including the Executive-Director of the RSPO, who said in an interview:

> "But we have to take it step by step. We need Europe, the US, Oceania and South East Asia to move; and if all these markets move, then China and India will also move" (quoted in Sustainable Palm Oil, 2013).

But the inevitability of this sequence did not seem to persuade a WWF participant discussing palm oil, who said,

> *"I agree [with tipping point theory]. Unfortunately, those markets in India and China make it difficult to reach a global tipping point" [5].*

What these two participants are arguing is that further increases in coverage – and therefore progress towards tipping points – need to be realised within non-environmentally sensitive markets for the deforestation commodities. This would mean that reaching the points at which any lagging markets would 'naturally' and 'automatically' become sustainable *in turn depends* on the ability of schemes and NGOs to engage these lagging markets. It seems hard to avoid concluding that, with the possible exception of cacao, the 'solution' to the problem of lagging markets promised by the tipping point idea necessitates converting exactly those same markets.

Participants in this study are not the only advocates for the idea of tipping points. The International Tropical Timber Organisation, for instance, notes that 'regulatory measures targeted at eradicating illegal timber products from international trade will have a much broader impact on demand because non-complying actors will gradually be eliminated from the supply chain' (ITTO, 2010:15). But the ITTO and consumer governments have less to lose than sustainability schemes and NGOs if the idea of a tipping point is not borne out in practice. As one WWF participant describes,

> *"The whole basis for this [Roundtable] approach is around mainstreaming or transforming markets and the whole reason for the multi-stakeholder approach, the compromise approach, is to get a standard that is significantly better than current standards, significantly better than business as usual, but it's far from perfect..." [5].*

If a point is reached where the objective of certifying a majority of production (or consumption) proves persistently elusive, this would undermine the entire *raison-d'être* of the Roundtables that have been formed. The 'compromise approach' inherent in Roundtables is justified with reference to the tipping point that will enable industry transformation. Should that perception change, Roundtables may begin to appear as a misuse of key actors' energies, attention and time. This is especially the case given the increasing trend towards 'going beyond' some current schemes, such as the RSPO, which has been initiated by individual companies, such as Nestlé, and institutionalised within collaborations such as the Consumer Goods Forum.

Even though a failure to reach hypothesised tipping points does not disprove their existence, the more compelling argument against them is instead the paradox of needing to win over the current hold-outs from schemes in order to transform that industry. In other words, the challenge remains the same as it was when Roundtables for the deforestation commodities were initiated.

Regardless of whether or not tipping point exist and are reachable, participants recognise that significant increases in coverage can be achieved by targeting nodes within international supply chains. 'Nodes' signify places where otherwise diffuse supply chains (or sets of chains) channel through a narrow 'pinch-point', otherwise known as a 'choke-point' or hub, but hereafter referred to as 'nodes'. The strategy of targeting nodes, especially given these actors' potential to spark several pathways of influence – peer pressure, influencing suppliers and signalling – described above, also holds some promise of achieving influence beyond coverage, making it a second theory of change applicable for entire industries.

Even though, as Chapter 4's discussion of coverage noted, each supply chain for the deforestation commodities and their derivatives has a unique profile, these chains nevertheless tend to concentrate at certain points (Brack and Bailey, 2013). The 'new patterns of industrial organisation, notably the concentration of power in lead firms within global production networks' (Mayer and Gereffi, 2010:5) were canvassed in Chapters 3 and 5, with authors (eg. Conca, 2002; O'Rourke, 2005; Mayer and Gereffi, 2010; Dauvergne and Lister, 2012) agreed on the opportunities this concentration presents for changing industry practices.

In a parallel with Chapter 4's exploration of coverage, these concentrations can also be conceptualised at different scales. Here, just two are proposed: a national scale and an actor scale. Taking these in turn, one obvious concentration at the national scale is the fact that Indonesia and Malaysia together account for 90 percent of global palm oil production, meaning the palm oil industry is concentrated at the production end of supply chains. In contrast, the EU and US account for 50 percent of cacao consumption, meaning that the cacao industry is concentrated at the consumption end of supply chains (although Cote d'Ivoire alone yields 30 percent of global production, making it another point of concentration). Sometimes the points of concentration occur in intermediate countries. China and Vietnam provide an example of concentrated processing points in international timber supply chains, importing raw timber from producer countries and turning it into furniture and other finished products to sell on to a set of consumer countries. This position is what has created the tension and some of the uncertainty surrounding the implementation and enforcement of the EU and US illegal logging laws. China, Italy and Hong Kong also play an intermediary role within international leather supply chains (Brack and Bailey, 2013).

At whatever 'end' of supply chains they occur, these concentrations have implications, not least for the idea of tipping points. These concentrations mean that achieving tipping points will likely require either the active support, or at least neutrality, from these countries. There are

two reasons for this: firstly, because in the absence of this support it will be harder – if not impossible – to reach tipping points, and secondly, because the changes in practices that tipping points are hoped to trigger 'naturally' and 'automatically' are still more likely to flow to countries where those changes are well-received. Many nodal countries for the deforestation countries – Indonesia and Malaysia for palm oil, China for soybean and timber – are proving to be difficult founding grounds for current responses. Indeed, the push for national domestic 'schemes' for palm oil in Indonesia and Malaysia can be understood as one result of a mismatch between the intentions 'signalled' by consumer countries and the results that producer countries are amenable to.

Even putting the idea of tipping points aside, the concentration of supply chains at a national scale presents difficulties for increases in response coverage. But there is another scale at which these concentrations can be understood – the actor scale – that provides some relief from these difficulties. Conceptualising nodes at an actor scale illuminates two things: that actors within any given jurisdiction are differently disposed to responding to traded deforestation; and that actors are not necessarily confined to a single jurisdiction but are instead situated across multiple jurisdictions. Each of these points has been noted in previous chapters, yet here they have new implications, which are now addressed in turn.

Firstly, actors within any jurisdiction – including nodal countries that have shown reluctance to engage with existing responses – are differently disposed to responding to traded deforestation. Because many response-types operate at non-national scales, including sustainability schemes and company sourcing policies, they can still take root within – or emerge from – nodal jurisdictions. This is where the pathways above, especially peer pressure, learning and signalling could potentially gain traction, enabling responses to gain traction over time. As the Executive-Director of the Roundtable on Responsible Soy stated at the RSPO meeting's Cross-Roundtable discussion in 2012, *"our strategy is to go for local [certified] production [in China] to show that it is possible, then influence the imports"* (Mascotena, 2012). In this case the RTRS hopes to initiate a process of learning, beginning with awareness-raising about the general idea of certification, within a jurisdiction not regarded as receptive to sustainability schemes.

Secondly, and prominently, many of the retailers and manufacturers who have designed sourcing policies for the deforestation commodities operate across multiple jurisdictions. The supply chains of these actors, then, provide a way for responses to affect consumption even within jurisdictions that have not proven receptive to existing responses. Both participants in this study, and practitioners more broadly, are highly aware of this use of company nodes. For

example, Adam Harrison, Senior Policy Officer with the WWF and the Vice President of the RSPO, explained that,

> "We [RSPO] are encouraging other companies, multinationals to take a lead on that. We urge [them] to sell it to emerging markets, not just to European clients" (quoted in Sustainable Palm Oil, 2013).

And multiple 'multinationals', not least those who have committed to transforming the palm oil industry, seem to be heeding this message. At the RSPO annual meeting in 2012, for instance, a representative of Walmart announced,

> *"we plan to use our scale to drive uptake across various geographical markets, particularly focusing on India and China..."* (Walker-Palin, 2012).

A Unilever participant in this study echoed this line, noting that,

> *"We're working with partners on the ground to help lift demand for sustainability in countries like India and China... we're looking for the change that we can bring into those countries" [3].*

These statements would please MD Chandran, an adviser to the RSPO, who at the 2012 RSPO meeting publicly espoused this idea of targeting actor nodes to reach non-sensitive markets:

> *"The other way is to get the multinationals who are operating in India and China. They have a global standard, they can't differentiate between one or other of their markets"* (Chandra, 2012).

Contrary to MD Chandran's latter comment, some companies have indeed tried to 'differentiate between one or other of their markets'. A previous sourcing policy for palm oil – from a major trader, Cargill – makes very clear that the company will differentiate between final markets. In 2012, Cargill announced that,

> '... By 2015, the palm oil products Cargill supplies to our customers in Europe, United States, Canada, Australia and New Zealand will be RSPO certified and/or originated from smallholder growers (excluding palm kernel oil products).
>
> 'By 2020, 100 percent of all palm oil products Cargill will supply to our customers worldwide from across all our oil and trading businesses will be RSPO certified and/or originated from smallholder growers' (Cargill, 2012).

It is surely no coincidence that Cargill intends to implement its policy in a step-wise fashion, beginning with precisely those countries, comprising much of the West, that have proven conducive to current responses to traded deforestation. Another major trader, Archer Daniels Midland, has similarly committed to 'exclusively offer RSPO-certified sustainable palm oil to North American customers beginning in 2015' (ADM, 2014). These policies contradict MD Chandran's claim that multinationals can't differentiate, showing not only that they can but that some of them already have. This differentiation has frustrated some practitioners – including a Unilever participant in this study – who expressed the following,

> *"At Unilever, it's company-wide, so we're not saying 'we'll do this for EU and US', we're saying we'll do this everywhere. So by 2015 unsustainable product will not be able to enter our supply chains" [3].*

There is also a larger point, and until recently a strong limitation, to be drawn from the Cargill example introduced above. At an actor scale, many nodes occur in the middle of supply chains, a niche often occupied by a handful of major traders and processors. It is this pattern across supply chains, which extends well beyond the deforestation commodities, that prompted Oxfam's pioneering study of four major traders in international agricultural trade (including both ADM and Cargill, as well as Bunge and Louis Dreyfus; still others are relevant for palm oil). That document – entitled 'Cereal Traders' (Oxfam, 2012) – concludes that 'understanding the economic and political power of the[se traders] is essential to developing a smart strategy to realise changes' (p6). Similarly, the Towards Sustainability Assessment notes that,

> 'It is particularly important to understand the "business case" or drivers for engaging actors at less-well-understood points in the supply chain (for example, brokers and traders) to improve overall sustainability outcomes within those chains' (Steering Committee, 2012:xviii).

The presence of these traders within supply chain nodes renders them a crucial leverage point for more sustainable practices. Yet although these traders are often headquartered in Western countries, they have nonetheless been relatively late to the table in announcing or implementing sourcing policies. At least one likely reason for this was expounded by one participant quoted in Chapter 6, who noted that the internationalisation of many of these (agricultural) industries means *"their power centres are not solely domestic" [16]*. One implication of their international character, that participant continued, is that,

> *"...[so] instead of being a potential ally [for regulatory approaches for soy] because [they are] gonna level the playing field for their American production, they actually see this as a*

potential threat, because you're gonna level the playing field against their Brazilian production" [16].

This may one reason why even when traders – again, until recently – announced policies, these had rarely been either ambitious or comprehensive across their operations. As McCarthy (2012) observes,

> 'There is some discussion of the need for large traders and buyers to certify across their complete supply chains, such as a few multinational buyers now do... Yet, to date, large traders have only begun to apply certification to their own production; they have avoided putting due diligence requirements on the majority of the crude palm oil derived from trade with small producers' (p1884).

Yet there are also other likely reasons why traders, including Western ones, have typically been laggards in adopting sourcing policies. As Chapter 5 noted, the type of company that has typically been most active in announcing sourcing policies are also, not coincidentally, the type of company for which the NGO model – of campaigning against, pressuring and critiquing – functions best. These companies are usually 'branded', where their value derives significantly from their reputation, and they are 'consumer-facing', in that their business depends directly on their consumers. Major retailers and supermarkets are typical cases of such companies. Yet for traders, their operations are largely out of sight of consumers, and their products – often in commodity form – pass through multiple further companies before reaching consumers as products. As a result, NGO campaigns and boycotts find it difficult to directly target traders, given the absence of a connection, specifiable to consumers, between certain products that appear on supermarket shelves and (eg.) deforestation.

Against a backdrop of unsettled responsibility for responding to the problems of international trade, a case made in Chapter 4 of this study, the invisibility of traders (and major processors) has made it easy for them to cast the responsibility for sustainability with other actors. For example, Cargill's previous palm oil policy, part of which was quoted earlier, contained the following opening stanza of its commitment:

> 'We will continue to offer to supply RSPO certified palm oil products to our customers. In addition, we will continue to encourage and support our palm product supply chain partners to join the RSPO and become RSPO certified' (Cargill, 2012).

In this statement of commitment, Cargill nonetheless suggests that the ultimate responsibility for choosing certified palm oil rests with their 'customers' and 'supply chain partners'. This characterisation seems to synch neatly with Chris Wille's frustration, that

> "Those [traders] that manage the invisible commodities such as sugar, soy and palm oil... have pretended that sustainability is the responsibility of everyone else in the supply chain" (quoted in Webb, 2013).

The coherent argument that this section has built, delineating the difficulties of gaining traction with traders of the deforestation commodities, necessarily needs to be revisited in light of a spate of recent commitments (and commitment upgrades). Both during and shortly after the UN climate meeting in New York in September 2014, several major traders committed to implement sustainable sourcing policies specifically for these commodities. These policies elided several distinctions that traders had previously made, namely between commodities that these traders produced (where operations stretched upstream) and those that they traded, and between a single deforestation commodity and all relevant commodities.

This rather stunning reversal is also important in revealing the potency of multiple pathways of influence, most tellingly that of peer pressure. There is no doubt that the short spacing between these policies, after a long period where traders had fallen well behind other company-types such as retailers, owes much to this pathway. In order for peer pressure to emerge, however, there first needs to be an instance of leadership. It is clear that the leadership of other company-types was unsuccessful in itself prompting these commitments from traders, suggesting that the 'peer' in peer pressure could be relatively narrowly interpreted. Instead, it took the leadership – and therefore peer pressure – of Wilmar, a giant that accounts for 45 percent of traded palm oil (recall that Unilever, the single largest purchaser, accounts for 3 percent of total production). To paraphrase one participant, once 'that domino had fallen', the other traders were relatively quick to follow.

Briefly, one further example where nodes have been successfully targeted – by NGOs, in collaboration with downstream retailers as well as elements of the Brazilian Government – was the G4 Cattle Agreement. Brazilian beef production is the primary driver of Amazonian deforestation, so critical NGO reports and legal problems with state public prosectors led the four biggest meatpackers in Brazil to join with Greenpeace in 2009 and 'set out a timeline by which these meatpackers would only buy from ranches in the Brazilian Amazon with no deforestation after the date of the agreement' (Walker et al., 2013:16). This agreement drew on another pathway of influence – collaboration – bringing together a broad range of actors with a shared concern, targeting the node occupied by major meat processing and packing companies within Brazil. Interestingly, only around 10 percent of Brazilian beef is exported, a factor perhaps compensated for by the strong roles of domestic actors, including not only Greenpeace Brazil but also government agencies. This example suggests that nodes for different

commodities may require different pathways of influence to activate, with Brazil in particular 'reaching the limits of what top-down prohibition can do' and officials there wanting 'to shift to offering more incentives to make it profitable to keep the forests intact' (Economist, 2014). Such a shift finds support from Nepstad et al. (2014), who caution that 'the supply chain interventions that fed into this deceleration [in deforestation within the Brazilian Amazon] are precariously dependent on corporate risk management, and public policies have relied excessively on punitive measures' (p1118).

The overall point remains clear, however. Convincing companies within nodes to respond to deforestation is one fully-formed theory of change that practitioners and other agents of change have identified as a potential way towards transforming relevant industries. This conclusion enables the recalibration of a point made by Dauvergne and Lister (2012), who contend that, 'the supply chains of the world's largest brand companies offer vital leverage points to produce the range, response, and coordination necessary for more systemic global market changes' (p42). According to the nodal theory of change, though, it may not be the 'world's largest branded companies' that are best placed to effect such change, but rather the often-elusive companies that occupy important niches within international chains. Newton et al. (2013) conclude as much in finding that 'the roles of actors in influencing agricultural production depends on their position and influence within the supply chain' (p1761). Over the course of a single year, from the end of 2013 to the end of 2014, major traders switched emphatically from what many saw as a position of recalcitrance on the deforestation commodities, publicly announcing a set of ambitious sourcing policies. In the process, these companies created the best opportunity yet, at least from within the deforestation commodities, to watch the possibility inherent within the nodal theory of change unfold (a dénouement that continues at the time of writing).

Reflexive pressure for regulation

Building on material introduced in Chapter 5 and expanded in Chapter 6, this study can now identify a third theory of change – reflexive pressure for regulation – that holds the potential to achieve broader transformation of relevant industries. With reference to Wilmar's 'no deforestation' commitment, Frances Seymour, the former Director-General of the Centre for International Forestry Research, articulates how this theory of change could operate:

> 'Stay tuned, as the most important impact of the Wilmar announcement will be its influence beyond the company's own supply chain. I expect that Wilmar and its many suppliers will soon begin pressing the RSPO and governments in the producer countries

where they operate to require similarly high standards from their competitors' (Seymour, 2013).

This quote captures the essence of this third theory of change, where existing (or new) responses to traded deforestation recalibrate the interests of actors to demand further responses from their peers, competitors and other relevant actors. While some pathways of influence, such as peer pressure, are likely to be relevant to reflexive pressure, what elevates it to a third theory of change is its potential to stimulate, prompt and demand regulatory responses from governments at both ends of supply chains. As Newell et al. (2012) surmise, 'business groups... mobilise to participate in policy and shape agendas in ways that are designed to either stall or enhance environmental regulation, depending on whether they feel threatened by the prospect of action or see it as an opportunity to do well' (p368). The two-sidedness of Newell et al.'s analysis is clearly germane to the prospects for regulatory action on the deforestation commodities, as evidenced in Chapter 6 in the opposition voiced by some domestic actors. Yet the positive side of business 'mobilisation' and 'participation' need to be recognised too. Thus the Wilmar announcement is important first and foremost because of Wilmar's position at a significant node within deforestation commodity supply chains, but also because – in two ways – it holds the promise of much broader influence than this already-broad coverage: firstly, because peer pressure has already led to other traders making similar commitments (a pathway of influence), and secondly, because Wilmar's clout as a producer of palm oil can be used to support – or pressure – the producer country governments of Indonesia and Malaysia. It is this latter reason that Seymour refers to with some optimism.

The Wilmar example also shows that this third theory of change could combine fruitfully with either or both of the first and second theories. The essential insight that the idea of reflexive pressure contributes is that only a handful of significant actors may need to enact 'leading' sourcing policies in order to then give producer governments their support for, if not to demand, a regulatory context that does not disadvantage them for leading. In other words, from the moment that leading companies enact their policies, it becomes in their interest to advocate for broader regulatory measures. As one participant in this study noted,

> *"Step three is the most important step, when the [producer] companies that have made these commitments in good faith swing around to become constituents in the producer countries and start saying 'well, if we're not going to deforest anymore we're going to lose out competitively unless the government levels the playing field'.*

> *"This is precisely the key point is when business swings around to become a constituency for better forest governance, and we're starting to see that [in the traded deforestation*

> *commodities]. So that's kind of the cascade. It can't be private-sector exclusive; ultimately it's got to be on the policy side [too]" [19].*

Clearly, the Wilmar announcement provides a source for optimism in relation primarily to palm oil, with which the company is most engaged, but potentially also for the other deforestation commodities, such as soy, that it trades. Reflexive pressure has already been applied within consumer countries for the deforestation commodities. At the APEC Senior Officials' Meeting in Medan, Indonesia, in 2013, Representatives of two Australian companies noted that they had been involved in lobbying their home jurisdiction for a regulatory response to illegal logging. As Mark Gomm, Sustainability Director for the large timber importer, Bunnings, said,

> *"The role we've played as an early-adopter [of responsible sourcing]... has certainly put us at a competitive disadvantage in the very early stages. When you're the only one, you're absorbing costs and it's not really a level playing field. That is the role that legislation can play in economies, and Bunnings very closely supported the Australian [illegal logging] legislation... it really helps level the playing field and remove some of the low-end, questionable product.*
>
> *"That [legislative] process was brought about with some market-first collaboration (NGOs, industry, government) joining in a common platform to support the Australian Government"* (Gomm, 2013).

This view was echoed by John Simon, a representative of another Australian timber importer, Simmonds Lumber, who explains:

> *"We made the decision to invest in legality certification with the hope that the rest of the industry catches up, and then we'll have an edge. We want to see a level playing field"* (personal communication, 2013).

These two companies have clearly been strong advocates for domestic regulatory measures to 'level the playing field'. In light of Chapter 6's finding – that the support governments have from domestic actors is critical for the success of any proposed regulatory responses – the reflexive support theory of change showcases one way that support can arise: through company leadership. Given that company sourcing policies for the deforestation commodities have usually both more comprehensive across commodities (rather than limited to timber) and more ambitious (using the term 'no-deforestation'), the company leadership that is essential for activating this theory of change continues to develop and advance. In combination with both pathways of influence, such as peer pressure and signalling, as well as theories of change relating to tipping points and nodes, the idea of reflexive support is surely only growing more

potent. Whether it ultimately produces regulatory action akin to the illegal logging laws, or leads alternatively to mandatory reporting requirements or state shareholder activism, this domestic support may yet prove critical in encouraging – if not demanding that – consumer country governments flex their regulatory muscles in responding to traded deforestation.

Conclusion

This chapter has identified and analysed a set of pathways through which existing responses might achieve a broader influence than the supply chains they directly cover. The chapter also introduced and expounded three theories of change – tipping points, nodes and reflexive pressure for regulation – that emerged from intensive analysis of discussions with participants about their perceptions on how transformative changes could occur within the deforestation commodity industries. The importance of both these pathways and theories is in the balance they provide to this study's breadth of analysis focused on responses' limitations. Yet what was equally clear, once these pathways and theories were subjected to scrutiny, is that despite their potential to overcome several limitations this study has identified, they nonetheless often contain new limitations of their own. There is no 'silver bullet', then, and even the most promising pathways still require some optimism and imagination to envisage their ultimate possibilities.

This chapter began by recalling one major and inescapable limitation of all current responses: their fractional coverage (Chapter 4). Fractional coverage leaves the door ajar for the further, negative possibility of displacement (Chapter 3), which could potentially undermine even changes in proportion to responses' coverage. Participants demonstrated knowledge of both the limitation of coverage and the danger of displacement, reinforcing this study's emphasis of these conceptual limitations. Yet careful attention to semantics used within relevant literatures and within discussions with participants allowed the identification of multiple pathways through which responses might not just meet these challenges but even achieve a broader influence than their coverage would suggest. These pathways were divided into active and passive pathways, with the latter signifying the importance of some positive influence occurring without being sought.

Often, pathways were found to have their own limitations. Some active pathways, such as leadership, were limited by competition law, while others, such as collaboration, were limited by the reluctance of consumer governments to consider complementary regulation. On the other hand, all passive pathways, including peer pressure, influencing suppliers, learning and

signalling, show considerable promise, yet suffer ultimately from severe difficulties in ascribing any positive changes to their influence. Nonetheless, passive pathways may yet prove to be the most significant channels of influence.

Finally, this chapter discerned and showcased three theories of change that are commonly espoused, including by participants, as potential means through any limitation provided by coverage can be overturned and entire industries transformed. The first of these theories, the idea of tipping points, remains speculative since no industry has yet reached a point where further changes came naturally and automatically. Whether Wilmar's example, since followed by other major traders, could precipitate a self-propelling transformation of relevant industries is as yet unknown, but is by far the most promising development on traded deforestation in recent years. The Wilmar example is just as relevant to a second theory of change – that of targeting nodes – which has become a means of identifying the most promising targets for NGO campaigns, collaborations and peer pressure. Unfortunately, as Chapter 5 noted, the NGO model for change has struggled to gain traction with these largely hidden, unbranded companies.

That may be in the process of changing, and quite rapidly too. Until Wilmar's announcement in late 2013, it was generally held that trading nodes were occupied by disinterested actors. Clearly, the breadth and strength of responses from other major traders requires this assumption to be revisited. Finally, a third theory of change is generated from the tendency for leading private sector actors to display a pronounced interest in 'levelling the playing field' amongst their competitors, through regulation. Whether this support, as it continues to wax, will be enough to shift governments beyond their current sensitivities regarding domestic support, international trade and foreign audiences – in other words, to reclaim a greater share of the responsibility for traded deforestation – is yet to be seen.

This chapter does not intend to locate the final balance that individual or collective responses might produce, between, on the one hand, fractional coverage and displacement, and on the other, influence beyond coverage and industry transformation. Instead, it has simply established and elucidated many of the most important opposing forces that will ultimately determine responses' contribution to slowing tropical deforestation.

International trade, often in specific commodities, is being implicated with ever more precision in major environmental problems. Current responses to traded deforestation provide an unparalleled case study for examining how downstream actors approach their entanglement, through international trade, to an environmental problem that is both contemporary and eliciting great concern.

This study has gathered a distinctive set of responses, each of which intends to slow deforestation by targeting international supply chains for the commodities of timber, palm oil, beef and soya (Chapter 1). Some individual responses to deforestation, such as timber sustainability schemes and NGO-industry Roundtables, have been subjected to scrutiny previously in an attempt to determine, inter alia, whether and how they might be effective. While nonetheless contributing to these overarching questions, this study largely reorients the focus away from responses' potential, a topic posing substantial attributional difficulties, and instead towards their limitations. An understanding of these limitations is a critical gap in current knowledge, because if responses can make only small contributions to slowing tropical deforestation it may be necessary and prudent to reinvigorate – or even redeploy – downstream actors' effort.

To date responses have typically been considered individually, with rare exceptions for individual response-types such as Roundtables. A further effort by this study reorients the scrutiny of responses towards a collective basis, given their shared characteristics. This reorientation affords an original vantage point on downstream actors' efforts, allowing for both comparisons across responses and attention to interactions between them. The advantages of such a vantage point are apparent throughout the study, for example enabling the discernment of responses' shared framing of the problem of traded deforestation (Chapter 3), the implications of that framing (Chapter 4), as well as the consequences of response interactions (Chapters 5 and 7).

Answering the study's primary question

This study's primary research question (Chapter 2) asked, 'What will limit – or otherwise determine – the contribution of current responses from downstream actors to slowing tropical deforestation?'. In pursuing answers to this question, a separation was made between limitations deriving from the conceptual nature of responses, on the one hand, and their empirical behaviour, on the other. These channels of enquiry both yielded fruit: the study finds

that the limitations on current responses are significant, and derive both from responses' nature and their behaviour. It further finds that, while some limitations are inescapable, others have been exacerbated or – in effect – chosen by actors in the course of prioritising or protecting other objectives, such as the continued usage of implicated commodities, as well as increases in levels of consumption and the expansion of international trade. Overwhelmingly, then, responses reflect a particular framing of the problem of traded deforestation that does not jeopardise these economic ends, which are endorsed by almost all actors in both downstream and upstream societies (Chapter 6). One potent question to emerge from this study, then, is whether and to what extent downstream actors can contribute to slowing tropical deforestation in the absence of regard to these often-unquestioned objectives. The prospects of a favourable answer are considerably lower given the danger of displacement, which can occur in multiple forms and be exceedingly difficult to detect, as well as potential rebound effects (Chapters 3 and 4). Nonetheless, it is likely that some, if not many, current responses may yet prove a necessary component of broader, more systemic approaches to slowing tropical deforestation.

To the extent that deeper, structural factors are essential for explaining the dynamics of contemporary deforestation, what current responses are instead likely to generate is the much narrower outcome of disconnecting a specific fraction of consumption from deforestation. Even if this fraction can be absolved of all direct connections, corresponding specifically to the portion of Western consumption covered by responses, deforestation may nevertheless continue unchecked and even accelerate, as at a global scale it currently shows signs of doing. How satisfactory such an outcome this would be for downstream actors remains as-yet unknown, yet it raises some interesting possibilities. Two discrete possibilities are considered here, both of which would lay bare the tension between the design of current responses, with their inherent blind-spots, and the objective to which they are intended to contribute, as well as testing the publicly-stated commitments of downstream actors.

A first possibility is that in recognising the limitations of current responses in achieving the overall objective of slowing deforestation, downstream actors could be induced to continue experimenting, including by moving towards more holistic approaches that focus on upstream forest governance, such as FLEGT and (on paper) the US-Peru Free Trade Agreement. Equally, and just as importantly, downstream societies could attend more holistically to the blind-spots that limit current responses, revisiting the unquestioned assumptions of ever-increasing consumption and ever-expanding globalisation. The European Environment Agency's foray into the connections between consumption and the environment, for example, casts some light on the terrain involved in querying the former assumption.

A second, opposing possibility, however, is that the narrow disconnection of consumption from deforestation could create the temptation for downstream actors to claim that they had 'done all they could'. Downstream actors could therefore resign themselves to the further clearing of tropical forests that are beyond their direct influence, and sheet home the blame for that clearing entirely to actors, including governments, within tropical forest countries. This would be a disheartening position to reach, and not just for the resignation it would entail for continuing tropical deforestation. Equally as important are the adverse conclusions this position would suggest about this study's responses, both in failing to make a valuable contribution to slowing deforestation and – by implication – for their prospects for contributing to resolving other comparable problems. The plausibility of the outcome under consideration here is a reminder that the novelty of these responses – and downstream actors' willingness to experiment with them and form unlikely alliances in pursuing them – is no guarantee of their capacity to gain traction on a very real, tangible and complex international environmental problem.

Determining the balance of responses' contribution to slowing deforestation

As this study has shown, then, even if current responses could fully disassociate Western actors from deforestation, their effect on the underlying problem remains indeterminate. Broadly speaking, the ultimate balance of that contribution depends on whether responses under-achieve, with problematic commodities displaced towards other consumers (Chapter 4), or over-achieve, by positively influencing a disproportionate share of production (Chapter 7's pathways and theories of change). Several instances of displacement – primarily geographical – have already been linked to tropical deforestation, and evidence suggests that further instances may be imminent. Offsetting this danger is feasible, however, as demonstrated by several major companies that have sought greater and more prolonged engagements with suppliers in order to encourage and support changes in the latter's practices. Indeed, the further and pivotal significance of these particular cases is their suggestion that ensuring more sustainable sourcing may actually require a reversal – or re-evaluation – of the flexibility and disconnection entrenched within the current patterns and structures of international trade (Chapter 7). The fact that only few downstream actors have sought this engagement suggests that the vast majority either remain ignorant of that need, or are otherwise unwilling to consider changes to a presently favourable framing of the problem of tropical deforestation.

The upper bound of responses' potential contribution is provided by the extent to which they might realise an influence beyond their coverage. Given this topic's importance in balancing out responses' limitations, the concluding empirical chapter of this study sought to identify the pathways through which such influence might be achieved. Multiple were found, many of which

seem viable and promising, even if difficult to attribute either prospectively or retrospectively. The wave of change that began sweeping through palm oil production in the year following Wilmar's commitment to 'deforestation-free sourcing' is to date the most promising evidence that influence beyond coverage not only exists, but holds transformative potential. Again, however, several pathways – including 'influencing suppliers' and 'learning' – reflect a recognition by some downstream actors that deeper engagement with their supply chains is necessary in order to successfully retro-fit the aforementioned values of legality, sustainability and responsibility. These engagements support this study's exposition of current responses' 'subject of governance' – international supply chains – which is found to be both one choice among many and a choice that blinds responses to alternative, deeper drivers of the problem of deforestation.

There are several lines of enquiry relevant to this discussion of influence beyond coverage to which this study has contributed. The split reference points of sustainability and legality adopted by responses creates a danger that the latter will undermine pursuit of the former. Yet this is not inevitable and there remains scope for optimism, since many of the efforts needed to achieve legality in commodity sourcing – including engagement with suppliers – could also facilitate a further step towards sustainability. Indeed, in line with the tenets of regime complex theory, the simultaneous presence of multiple reference points may engender productive synergies between responses. Further, even notionally weaker baselines than legality, such as government-enforced mandates that companies report on their carbon emissions, can stimulate and shape the necessary engagement of the private sector with its supply chains. Concurrently, such efforts may also serve to reactivate the crucial roles of public authorities in advancing and protecting common interest concerns, of which mitigating environmental impacts at home and abroad is increasingly recognised as one.

Of course, between these two bounds of 'under-achieving' and 'over-achieving', responses could simply generate an effect on deforestation proportionate to the extent of their coverage. This aligns with the 'narrow outcome' scenario explored earlier, whereby only a specific fraction of traded commodities is exonerated from its connection to deforestation. Were this to be the ultimate landing point for responses, their contribution to slowing deforestation could perhaps best be described as 'modest'. This is not, however, the same as insignificant; this outcome would mean effectively disconnecting from deforestation those supply chains covered by responses, and it remains plausible that current responses might yet have provided a necessary impetus to, and an essential component of, any broader approaches to deforestation that subsequently emerge.

One looming challenge here, for which few encouraging signs are evident in the rhetoric and behaviour of downstream actors, is that the drivers of deforestation could start shifting away from agricultural commodity production and towards more diffuse and elusive governance subjects, such as coal and oil exploration, wildfires and drought, and roads. Already in the Amazon, the effects of climate change are beginning to vie with commodity-driven deforestation in explaining some of the changes witnessed in those forests. Again, then, the ultimate limitation of all current downstream responses, with only rare and partial exceptions, is their framing of the problem of deforestation as driven by commodity production (Chapter 4).

The theoretical grounding of responses and the benefits of collective analysis

At a theoretical level, this study has identified responses as 'institutional teleconnections', with the key characteristic that the problem they respond to is incurred across international borders. Responses therefore need to operate over 'inter-jurisdictional distance' (Chapter 3). The particular consequences of this characteristic are in affecting the possibilities for downstream actors to respond to their connection to the problem, in ways this study has explored empirically with respect to the nexus between private sector and civil society (Chapter 5), as well as governments (Chapter 6). This study has also clarified the nature of the governance challenge that downstream actors face, construing it as a 'governance gap' that responses are intended to bridge. The gap itself refers to the situation where the emergence of connections to distant environmental problems has outpaced downstream actors' ability to prevent or mitigate those connections. Another significant theoretical contribution is the aforementioned identification of multiple 'subjects of governance' or framings of deforestation that responses could have been designed to respond to.

As alluded to earlier, gathering current responses together enables an exceptional vantage point. One of this study's major findings is that interactions between responses are not always conducive towards furthering their shared objective of slowing deforestation. 'Tool' responses, especially, are often intended to compete with each other, distorting actors' behaviour and often generating counter-productive outcomes, with the ultimate result that responses come to be mutually inhibitive (Chapter 5). The emergence of additional responses looks set to continue, for example with producer countries developing national schemes for timber and palm oil. The implication of this finding is that downstream actors – especially NGOs and sustainability schemes, but also companies and governments – must become more attentive to the counter-productive effects that their behaviour and decisions can produce. Indeed, some actors have begun to express recognition of this point, although existing competitive and demonstrative behaviours – which are nonetheless narrowly rational – continue to hold sway over their behaviour. Efforts at harmonisation and collaboration, including those that result in

response to a regulatory impetus from government, hold some – though by no means unlimited – potential to short-circuit some of these counter-productive behaviours.

The final empirical chapter provided an alternative interpretation of the interactions between responses, suggesting that their effects on each other may be less important than the signal they collectively convey to upstream actors, whether producer governments, traders or suppliers. This perspective, strongly voiced by multiple participants, holds that the differences between responses – their reference points of sustainability or legality, and their reliance on or neglect of specific sustainability schemes – are minor inconsistencies within the overall consensus that trade must be retro-fitted with values of legality, sustainability and responsibility (Chapter 7). It remains to be seen whether this view can reliably triumph over the competitive dynamics created by the fracturing of responses' reference points (Chapter 4) and actor behaviour (Chapter 5). And certainly, even a consistent message from downstream actors would not in itself provide solutions for the complex and intractable governance challenges that characterise upstream production, especially of palm oil and timber, but merely – and at best – provide an impetus to find and create those solutions. The traction that corporate responses have recently gained within the palm oil industry is promising. Yet the mosaic of responses is dynamic and reactionary; upstream actors have subsequently sought to counter signals from downstream actors with a further set of responses, such as the national timber frameworks within multiple countries (endorsed by the PEFC, but not yet by the EU's FLEGT) and palm oil frameworks in Indonesia and Malaysia. Should these frameworks do nothing more than muddy the waters – and the signal – at least some major upstream actors will be content.

Broader implications of the study

Although this study's findings derive from an examination of downstream actors' approaches to deforestation, they carry insights that are highly relevant for current and future approaches to other transnational problems, especially those in which international trade acts as a connecting mechanism. For wealthy, consuming societies in particular, implicit or explicit decisions not to attend to levels of consumption or the insistence and promotion of the further liberalisation of global economic activity has two consequences: it leaves them highly exposed to being ensnared in other unpalatable problems, whether environmental or social, that are teleconnected through expanding international trade; and more fundamentally it also leaves ungoverned the capacities of these structures to precipitate and exacerbate such environmental problems.

Regardless of what changes take place with respect to deforestation, the growing capacity of international trade to implicate downstream actors creates a need for governance research and analysis aligned to relevant problems. Where a pattern emerges, for example implicating

international trade as a primary connecting mechanism between locations, a more systemic focus on governing international trade itself, including 'safeguards' in the form of provisions to monitor and protect strategic, significant, threatened or scarce resources, may ultimately be warranted. As a starting point, major actors – governments and international institutions – will need to acknowledge and honestly consider a second, unpalatable side to the coins of both consumption growth and expanding trade.

In delineating several major limitations on current responses to deforestation, then, this study raises further questions worthy of exploration. For example, what policy, institutional and regulatory responses might be necessary to target more systemic subjects of governance such as consumption and globalisation? And what is the state of awareness and willingness among downstream actors – especially governments – to identify and concertedly engage with such subjects? In essence, these questions ask how international trade would need to be governed – how it would look – if it better guarded against exacerbating known and significant environmental problems. Despite the range of responses to tropical deforestation, the larger project of governing trade towards sustainable ends remains tenuous. Further, given that international trade comprises just one component of overall economic activity, which continues to precipitate alarming changes to human ecosystems around the planet, the project of governing this broader activity seems more daunting – yet more necessary – still. While this study has discovered a few encouraging signs in actors' awareness of one governance gap, narrowly conceived for traded deforestation, more research could better analyse societies' ability to conceive of and create these larger bridges, and ultimately to cross them.

Responses to traded deforestation may remain a litmus test for, and insightful guide to, any evolving positions on these matters. Researchers returning in future to the specific responses canvassed by this study may find that the passage of just a few years has created vastly different dynamics to explore. Indeed, one participant in this study noted just how rapidly the dynamics of these responses and the actors behind them are shifting by commenting, in early 2014, "It's hard to believe that a year ago we were still living in RSPO-world". While this study has by its design excluded the actual implementation of responses within specific tropical forest contexts, this topic will only gain in importance as the 'rubber hits the road' for all responses considered here. There are also several identifiable trends warranting further attention, include a shift in trade patterns away from the Western countries from which current responses have overwhelmingly emerged and towards the economic powerhouses of China, Brazil, India and other previously 'developing' countries. A second shift involves the changing drivers of deforestation, away from the straightforwardness of the commodity-driven explanation and towards causes that are more difficult to control, such as smallholder cultivation, fires and

droughts. Further research could usefully explore the consequences of these shifts. And finally, this study's scrutiny of supply-chain focused responses leaves the dynamics of other 'groupings' of responses with shared characteristics – such as finance- and aid-related responses – open for further consideration, both as distinct subjects in themselves but equally in terms of their relationships to the supply-chain responses considered here.

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